Public Utilities

Volume 59 No. 3 January 31, 1957

THE CASE OF THE MISSING MILLIONS
By John Alden Bliss

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The Changing Expense Pattern of the Electric Utilities
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By Willard F. Stanley

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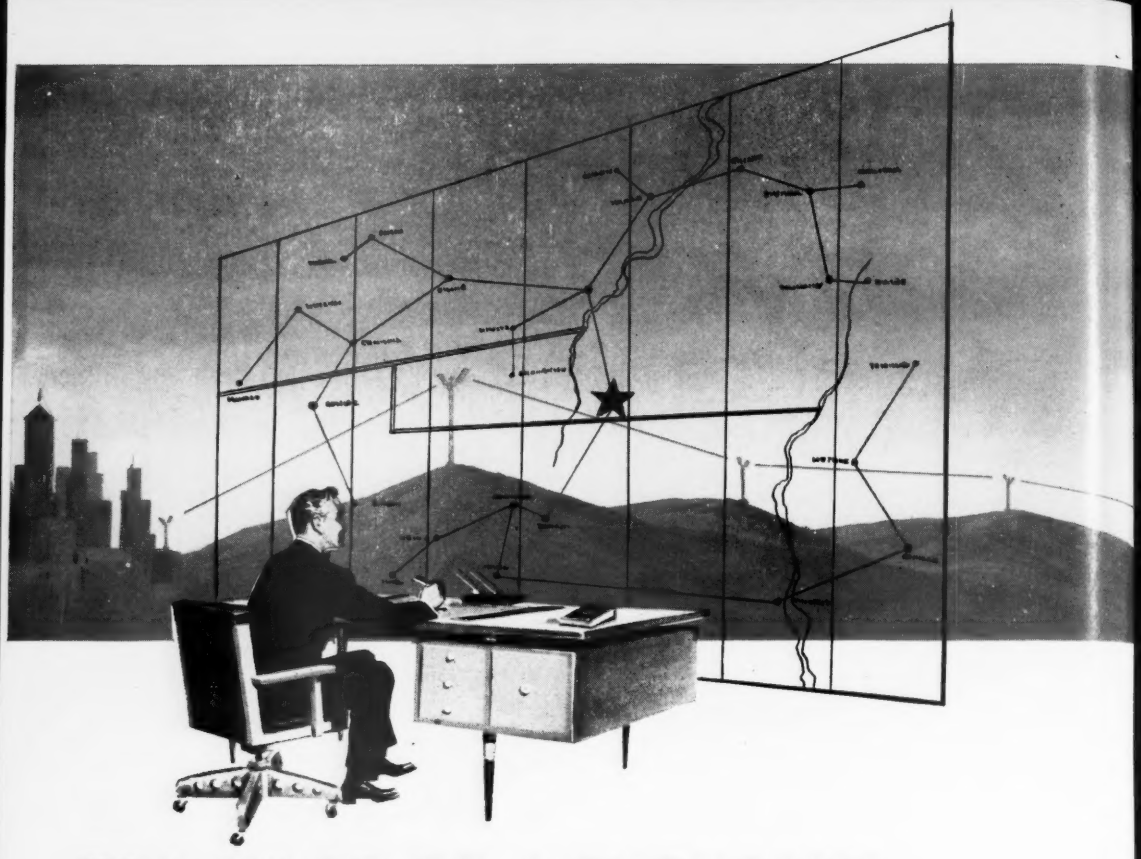
The Utility House Organ—Employee Morale Builder



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Public Utilities FORTNIGHTLY

VOLUME 59 JANUARY 31, 1957 NUMBER 3

ARTICLES

The Case of the Missing Millions ..... *John Alden Bliss* **145**
What happens to the so-called tax savings which the customers of government-owned and -operated public utilities are supposed to enjoy as a result of tax exemption?

The Changing Expense Pattern of the Electric Utilities ..... *Franklin H. Cook* **160**
A careful study of the competitive operation of the electric utilities for purposes of determining the explanation of this changing pattern of expenses.

How Important Are Interest Rates? ..... *Willard F. Stanley* **167**
The high plateau for money rates in all categories of debt have held fairly steady in recent weeks.

FEATURE SECTIONS

Washington and the Utilities **170**
Telephone and Telegraph **174**
Financial News and Comment ..... *Owen Ely* **177**
What Others Think **186**
The Utility House Organ—Employee Morale Builder . 186
Natural Gas for Florida 188
The Automobile's Rôle in Transit 189
Regulation as an Aid to Pipeline Construction 192
Transit Survey Favors Buses 196
The March of Events **197**
Progress of Regulation **201**
Industrial Progress **21**

• *Pages with the Editors* . 6
• *Coming in the Next Issue* 10
• *Remarkable Remarks* .. 12
• *Utilities Almanack* 17
• *Frontispiece* 18
• *Index to Advertisers* .. 34

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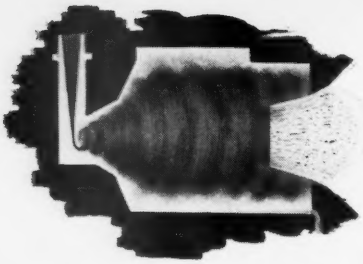

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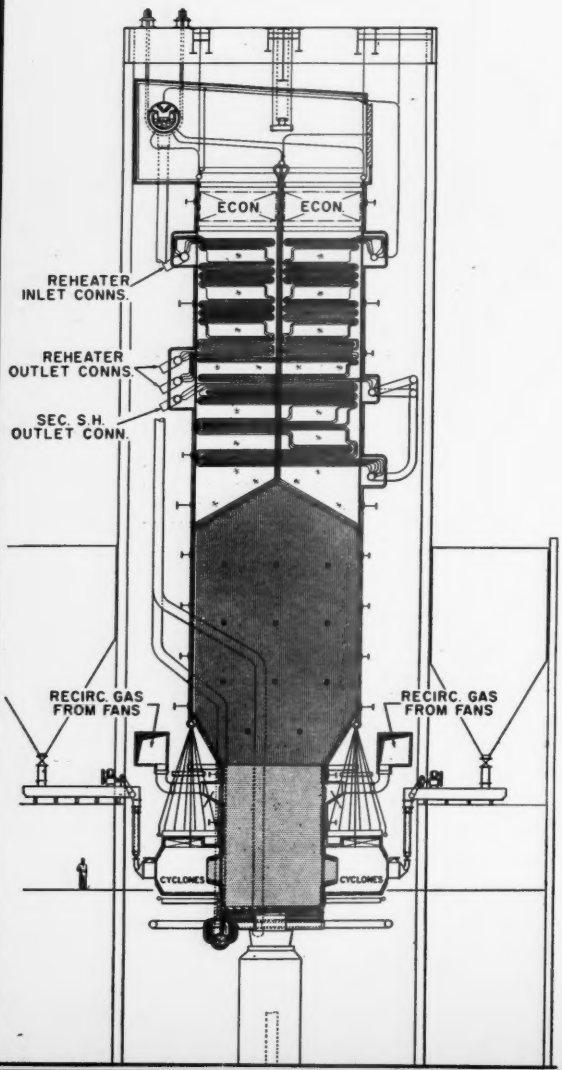

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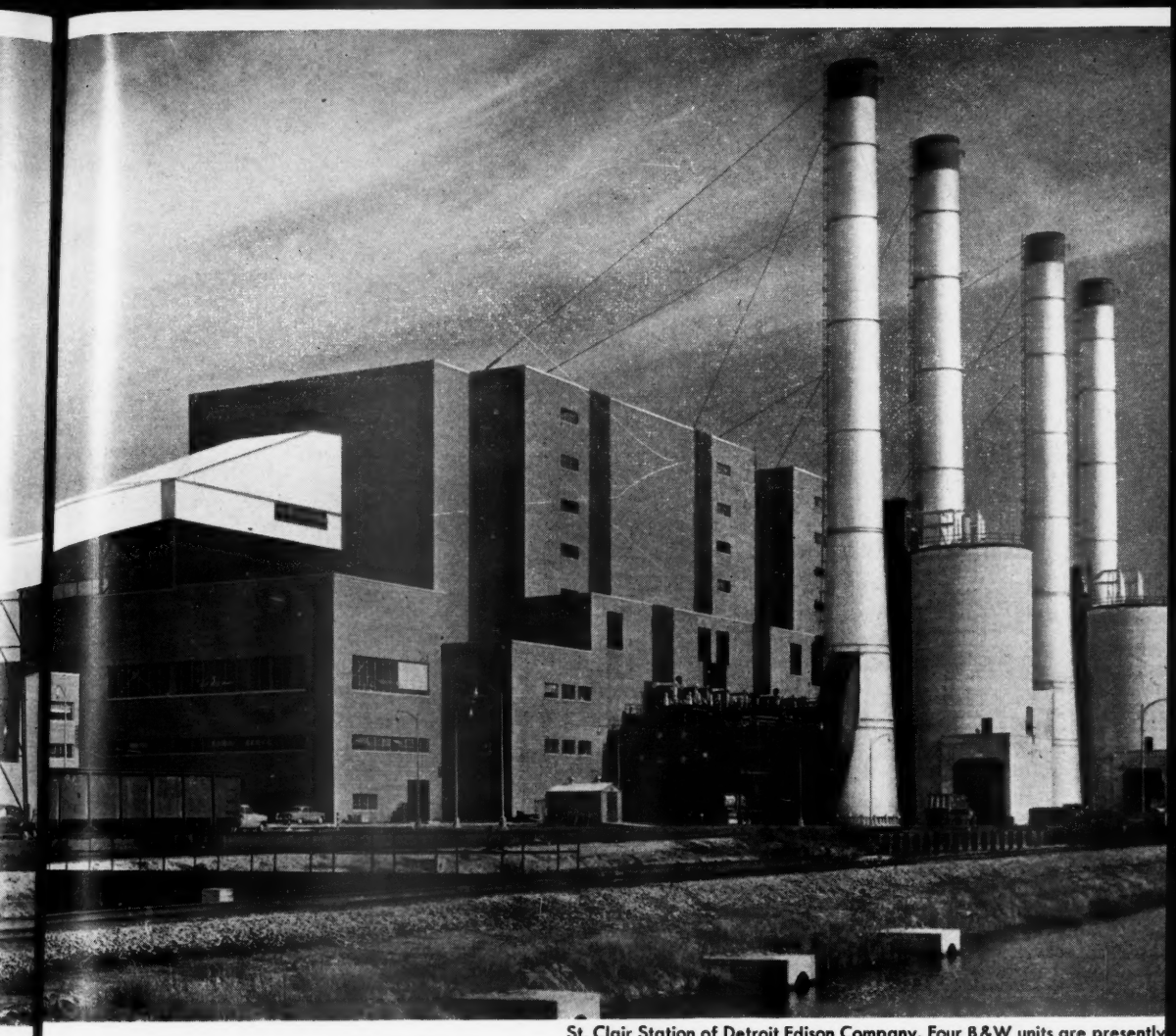

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Pages with the Editors

ONE of the difficulties in dealing with the perennial controversy over tax exemptions for government-operated utilities, in whole or in part, is the determination of who really pays and who really benefits from such exemption and how much. Unless practical and realistic analysis sets these factors forth accurately, there is a tendency on the part of proponents for various schools of economic thought in this field to blur the whole subject with questionable claims and wishful thinking.

THUS, proponents of further expansion of federal power projects contend that customers of these agencies through their power bills have already paid a considerable part of total construction costs and that they are actually paying more to the local state governments "in lieu of taxes" than predecessor business-managed electric companies paid in actual taxes. The fact that these agencies are paying no federal taxes or amounts "in lieu" of federal taxes, and the fact that if business-managed companies were still operating in those areas they would be paying much, much more than the amount so contributed "in lieu of taxes," are ignored.

ON the other hand, advocates of private enterprise in the electric power business stress the "unfairness" of tax exemption for government power agencies. They claim that all the rest of the taxpayers, including the business-managed utilities, must make up the loss, so that all of us are actually paying *higher* taxes in order to build these plants for the benefit of local area power consumers.

FRANKLIN H. COOK

JOHN ALDEN BLISS

ASIDE from this actual clash of claim and counterclaim, there is a tendency to overlook the actual amount of dollars and cents involved, whether it be considered as a saving or as a detriment. What actually happens when a government agency operates a utility business without paying the actual amount of taxes which would have to be paid if a business-managed utility company were operating that same business in the same place with the same facilities under the same legal and economic conditions?

ADVOCATES of public ownership generally assume that the ultimate consumer is the real beneficiary of any so-called tax "saving." Some even go so far as to say that other taxpayers and residents in other areas of the country actually *owe* a great deal to the existence of these government power agencies—doubtless on the

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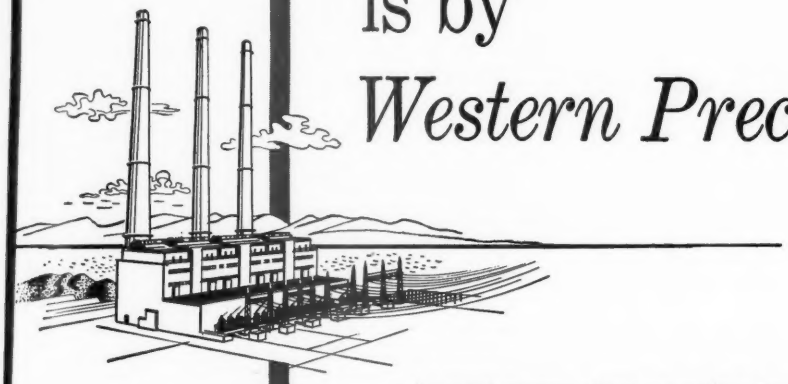

As most power plant executives know, the Federal Power Commission annually "rates" the major steam power plants of the United States to determine their overall thermal efficiency as represented by their heat rate (i.e., BTU of fuel consumed per KWH of generated power).

*The "Top Six" steam plants according to the most recent Federal Power Report are . . . 1. Kyger Creek Plant (Ohio Valley Electric) . . . 2. Clifty Creek Plant (Indiana-Kentucky Electric) . . . 3. Kanawha River Plant (Appalachian Electric Power) . . . 4. St. Clair Plant (Detroit Edison) . . . 5. Muskingum River Plant (Ohio Power) . . . and 6. Tanners Creek Plant (Indiana and Michigan Electric).

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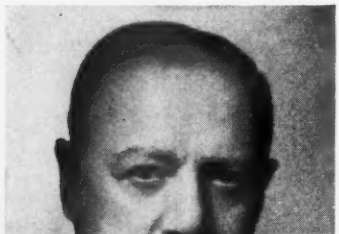
theory that the improvement of the local economy eases an economic burden which would otherwise have to be borne by the general population. This completely reverses the claim of private enterprisers, who argue that other taxpayers must contribute indirectly for the "lost" tax dollars resulting from the exemption.

TAKING a rather novel approach, the opening article in this issue is an effort to explore the trail of the tax exemption dollar from beginning to end. The intriguing title of this investigation of a modern economic mystery is called, appropriately, "The Case of the Missing Millions." JOHN ALDEN BLISS, author of this very unusual form of "whodunit" article, was born and raised in Jamestown, New York, which, incidentally, is a city with a considerable record of municipal power plant operation. He was educated at Dartmouth, majoring in economics, and saw service with the staff of the New York Public Service Commission. He is at present an economic consultant in New York, specializing in transportation rates and allied matters. He was for some time the transportation and traffic manager of truck lines in Florida. He claims, incidentally, that railroad companies can learn a great deal from the electric utilities in the matter of rate design and rate structures.

* * * *

THE second feature article in this issue follows a somewhat similar line of economic investigation as that pursued in the opening article but for a different purpose. "The Changing Expense Pattern of the Electric Utilities," beginning on page 160, is an effort to trace the meaning and direction of electric utility operating expense reduction in the face of generally rising prices.



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WILLARD F. STANLEY

FRANKLIN H. COOK, professor of business law at the Pennsylvania State University, has made a careful study of the comparative operation of the electric utilities for purposes of determining the explanation of this changing pattern of expenses of electric utility companies and what it portends for the future development of the industry. It is a thought-provoking study which should interest regulatory and professional as well as management readers.

PROFESSOR COOK was born in Vicksburg, Pennsylvania, and educated at Bucknell University (AB, '33); Duke University (LLB, '36); and Pennsylvania State University (AM, '40). Prior to joining the faculty of the Pennsylvania State University in 1937 as an instructor, he was a cost accountant with the Armstrong Cork Company at Lancaster, Pennsylvania. He became associate professor in 1946 and full professor in 1954.

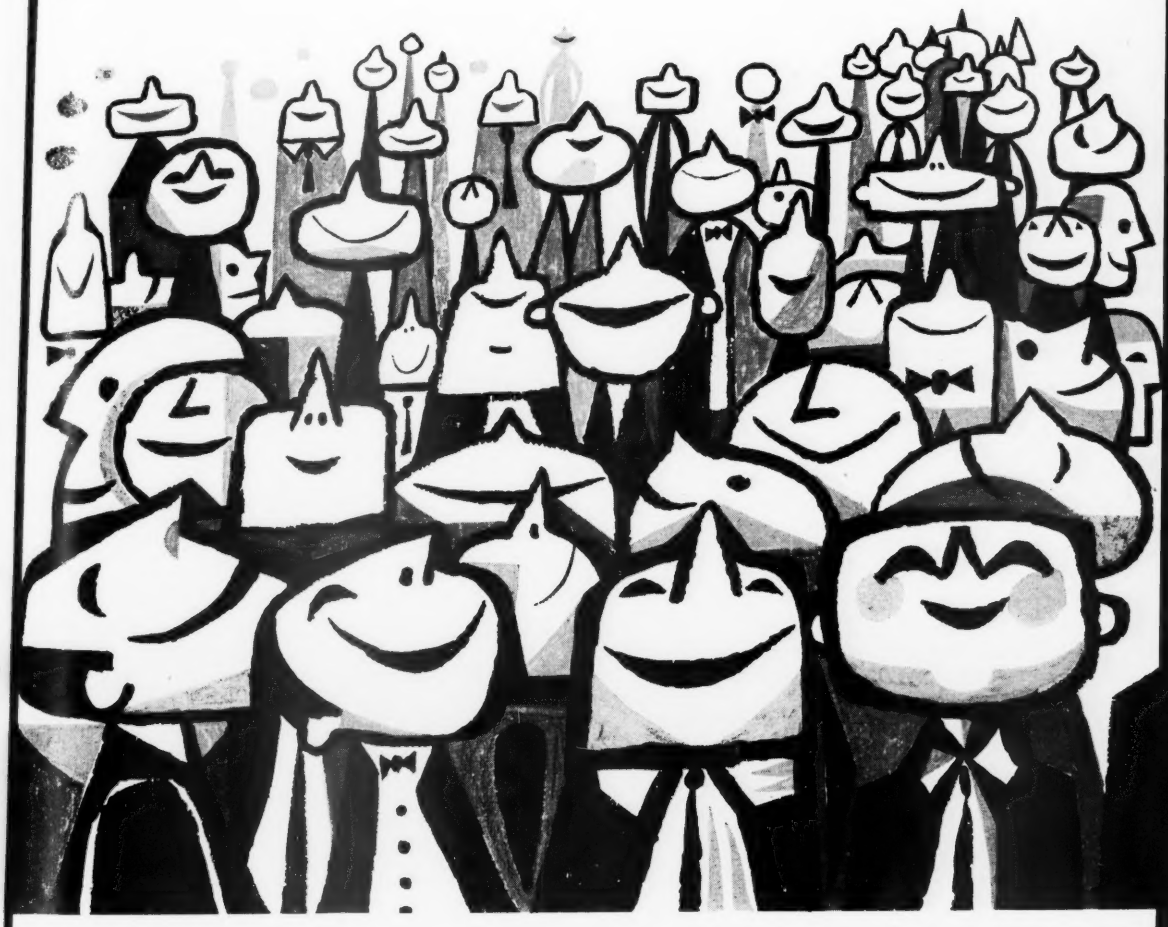
* * * *

THE high plateau for money rates in all categories of debt has held fairly steady in recent weeks. Most financial economic experts are predicting a continuation of the "tight money" situation, at least for the first half of 1957. In the article entitled "How Important Are Interest Rates?" (beginning on page 167) WILLARD F. STANLEY, former utility executive and financial writer of New York city, gives us a succinct explanation of this timely topic from the standpoint of public utility finance. It will mean much in the decisions of utility management in the months to come.

THE next number of this magazine will be out February 14th.

The Editors

hen you count noses...



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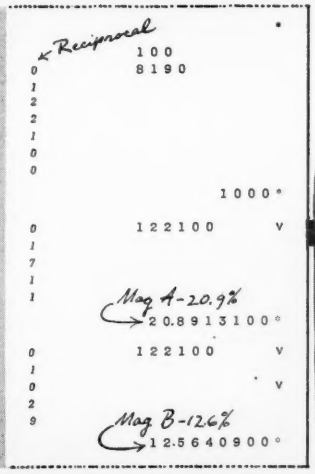
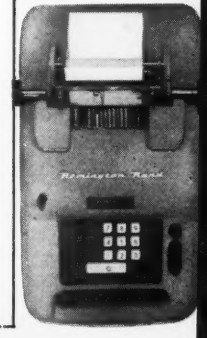
B	1029
C	982
D	308
etc.	etc.
Total	8190

Method: Find the reciprocal of 8190. Enter reciprocal as a constant and multiply by the number of first choices for each magazine to find percentages.

(partial tape)





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(February 14, 1957, issue)

★

A PARTNERSHIP PLAN FOR ATOMIC POWER DEVELOPMENT

Are the business-managed electric companies dragging their feet in the development of nuclear reactors to be used in connection with atomic power development? During the past year party criticism from political sources has suggested that the electric industry is stalling if not actually obstructing a vigorous program which the Atomic Energy Commission ought to be aggressively promoting to develop low-cost electric power from nuclear plants. There have been fears expressed that, as a result, the United States is falling behind in the race with Soviet Russia, Great Britain, and others to arrive at the goal of an atom power plant which can compete economically with conventional type generation. Robb M. Winsborough, Chicago consultant with the Middle West Service Company, has made a careful analysis of these claims, as well as the record to date and the steps taken by private companies to carry their share of atomic power development for peacetime public use. His findings and conclusions suggest that co-operation, rather than rivalry or discrimination, is the only sensible key to American supremacy and success in the field of atomic energy development.

COST AS A BASIS FOR GAS FIELD PRICE FIXING

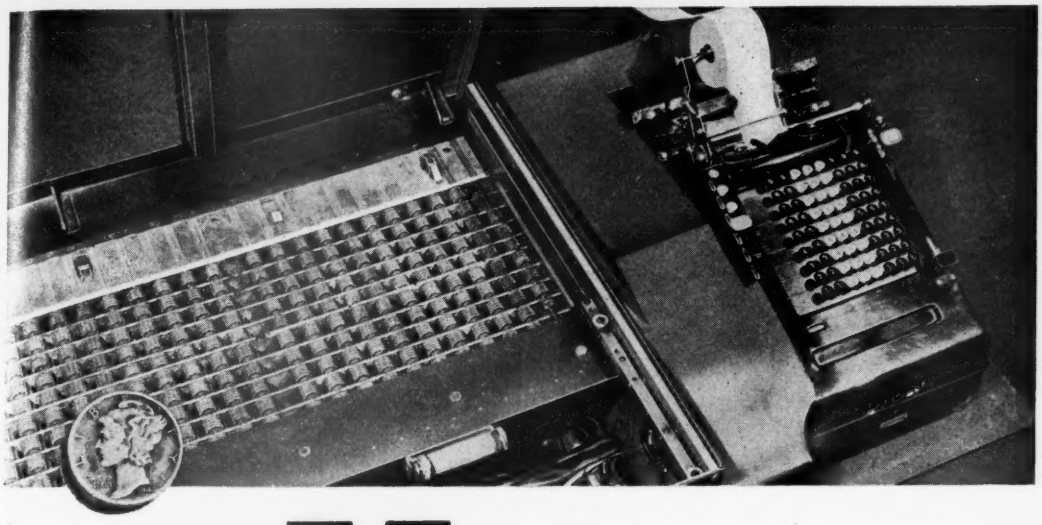
It has been generally assumed that various efforts will be made in the 85th Congress to revive legislation exempting, in whole or in part, natural gas producers from FPC regulation under the Natural Gas Act. And it is also widely assumed that the fate of such legislation will depend in large part upon various segments of the natural gas industry reaching some measure of agreement upon the limits for easing the regulatory burdens of gas producers. One of the most controversial factors involved is the FPC's use of traditional cost methods as applied to producer rates. Writing from the standpoint of one engaged in the gas distribution business, but expressing only his personal opinion, Charles H. Frazier of the Philadelphia Gas Works explores the possibilities and variations of cost price regulation in the field of natural gas production.

ANTITRUST POLICY: A STUDY IN CONTRADICTION

Early last year the federal government settled its antitrust suit against the American Telephone and Telegraph Company with a consent decree permitting Western Electric to remain in business as the manufacturing subsidiary for the Bell system. Since that time the Justice Department has started, prosecuted, and settled some antitrust suits involving other industrial combinations in carrying out a policy for enforcing monopoly statutes. What is that policy? Is it consistent, rational, and justifiable? Donald I. Rogers, financial editor of the **New York Herald Tribune** and well-known writer in the field of business economics, does not think so. He has written a brief but trenchant criticism of a government antitrust policy which he terms "a study in contradiction."

★

Also . . . ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***



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400	15,000 lbs.	26,000 lbs.	197
500	18,000 lbs.	32,000 lbs.	197
600	21,000 lbs.	35,000 lbs.	197
700	23,000 lbs.	45,000 lbs.	216
800	25,000 lbs.	55,000 lbs.	222
900	30,000 lbs.	65,000 lbs.	232
Forward-Control Models			
P300	9,000 lbs.	—	204
P500	15,000 lbs.	—	204
C.O.E. Models			
C500	18,000 lbs.	32,000 lbs.	197
C600	21,000 lbs.	35,000 lbs.	197
C700	22,500 lbs.	45,000 lbs.	216
Tandem Models			
T700	32,000 lbs.	45,000 lbs.	216
T800	36,000 lbs.	55,000 lbs.	222
T900	46,000 lbs.	65,000 lbs.	232

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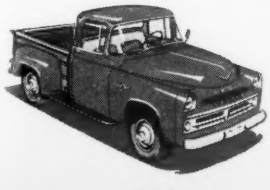

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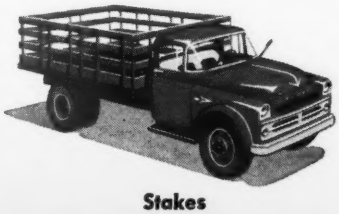

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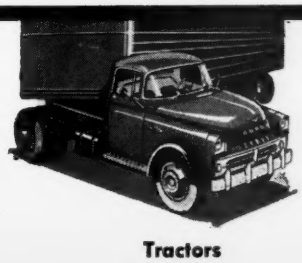

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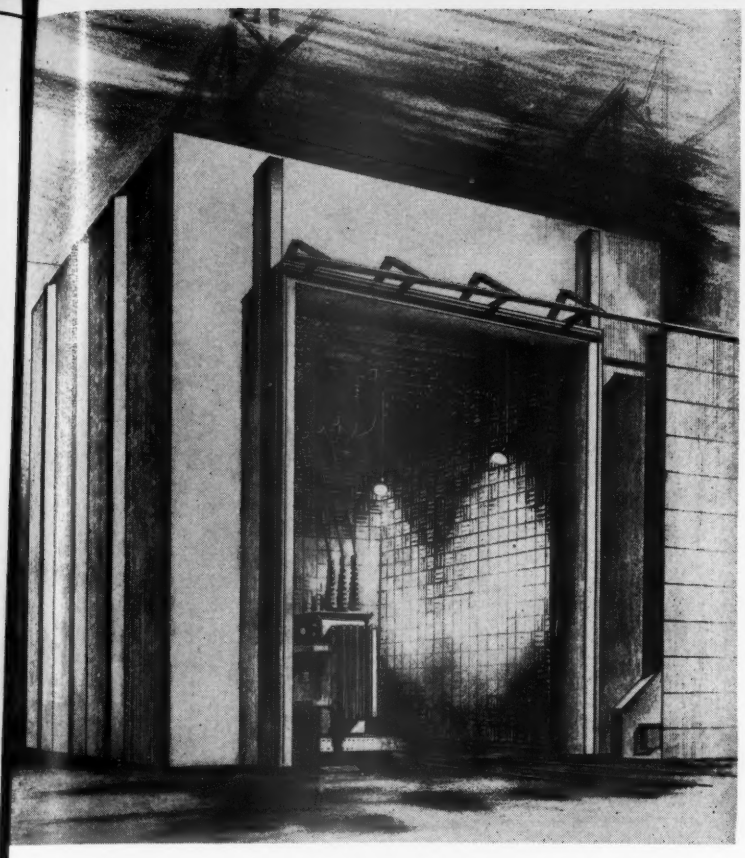

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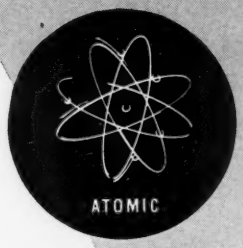

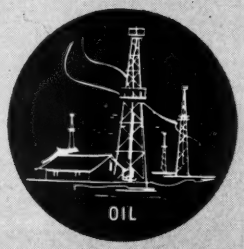

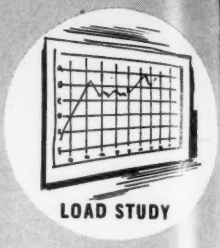

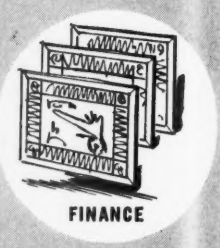

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Monday—4 *Western Winter Radio-Television and Appliance Market begins western merchandise mart, San Francisco, Cal.*	**Tuesday—5** *National Adequate Wiring Bureau will hold annual conference, Chicago, Ill. Feb. 21, 22.* ***Advance notice.***	**Wednesday—6** *American Gas Association ends 3-day home service workshop, Toronto, Ontario, Canada.*	**Thursday—7** *Edison Electric Institute, Dealer Co-ordination Committee, begins meeting, New Orleans, La.*
Friday—8 *American Water Works Association, Indiana Section, ends 3-day annual meeting, Indianapolis, Ind.*	**Saturday—9** *American Society of Heating and Air-conditioning Engineers will hold annual meeting, Chicago, Ill. Feb. 25-28.* ***Advance notice.***	**Sunday—10** *Louisiana Telephone Association will hold annual convention, Shreveport, La. Feb. 27, 28.* ***Advance notice.***	**Monday—11** *Pennsylvania Electric Association, Communications Committee, begins meeting, Allentown, Pa.*
Tuesday—12 *Electric Institute of Washington begins electrical trade conference and exposition, Washington, D. C.*	**Wednesday—13** *Eighth Annual Tulsa Corrosion Short Course for Pipeliners begins, Tulsa, Okla.*	**Thursday—14** *American Institute of Electrical Engineers begins transistor and solid state circuit conference, Philadelphia, Pa.*	**Friday—15** *National Society of Professional Engineers begins spring meeting, Charleston, S. C.*

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Public Utilities
FORTNIGHTLY

VOL. 59, NO. 3 JANUARY 31, 1957

The Case of the Missing Millions

What happens to the so-called tax savings which the customers of government-owned and -operated public utilities are supposed to enjoy as a result of total or partial tax exemption for the operation of such agencies?

BY JOHN ALDEN BLISS*

ON the national level at least, debates over "nonprofit" electric power agencies tend to proceed on the assumption that whatever benefits flow from whole or partial tax exemptions actually are passed on to ultimate consumers.

The "Preference Clause Debate" at Missoula, Montana, in July, 1956, reported extensively in PUBLIC UTILITIES FORTNIGHTLY, September 13, 1956, while not directly concerned with taxes, provides numerous and recent examples of attitudes on both sides.

One group (Edwin Vennard, Francis V. Hill, and Professor A. J. G. Priest) emphasized what they termed "unfair" and "discriminatory" treatment of 80 per cent of the population, compared to the 20 per cent who are customers of various forms of power agencies.

*Economic consultant, East Greenbush, New York. For additional personal note, see "Pages with the Editors."

Three defenders of the "preference clause" and of "public power" generally (Leland Olds, Lawrence Potamkin, and Gus Norwood) likewise seemed to take for granted that the ultimate consumer was the real beneficiary. Their answer to the charge of "unfairness" appeared to be that those who had selected power agencies to serve them were simply smarter than the majority. Avoidance of federal corporate income taxes was dismissed as a mere by-product of avoiding the monopolists' "toll." Through such phrases as "breaking the scarcity economics of monopoly" and "operated for use, not for profit," they apparently further contended that *output* benefits to ultimate consumers actually exceed *input* benefits to the power agencies.

THIS article is not concerned with justice or injustice. It merely attempts to estimate what these *output* benefits amount to.

Estimates may be made for the year 1955 with far more precision than was possible for prior years, thanks to additional breakdowns in the 1955 Statistical Bulletin of the Edison Electric Institute.

Supplementing the usual series of tables showing energy sales, number of customers December 31st, and revenues for "total electric utility industry" by states and classes of service, are new tables in the same detail for "investor-owned electric utilities" only.

Subtracting one from the other leaves equally complete data for the "nonprofit" agencies.

Moreover, it is possible to estimate within narrow limits the average number of customers, and hence the average 1955 consumptions for both companies and agencies, by using a previously published table of power company customers on December 31, 1954, and a new table: average number of customers—year 1955.

Examination of this new information has been interesting, not only because it has suggested that there is something akin to "line losses" in transmission of benefits via power agencies, but also because it has provided illustrations of the misleading character of over-all averages.[1]

These difficulties with averages are not, of course, eliminated by using data whose smallest unit, or cell, is based on the state. It would require an extensive sample of power agency bills, properly stratified so

[1]In "Fallacies in Operations Research," an address to the fourth annual meeting of the Operations Research Society of America, May 10, 1956, since published in *Operations Research*, Vol. 4, p. 222, August, 1956, Professor Bernard O. Koopman of Columbia University termed assumptions that "average F(X, Y) = F(average X, average Y)" the "fabulous law of averages." This point, which also can be phrased in terms of the dangers in assuming that "the sum of the means equals the mean of the sums," was the primary inspiration of the present article, and the author hereby acknowledges his debt to Professor Koopman for whatever merit it may have.

TABLE I

YEAR 1955

	Number of Customers	*Kilowatt-hours (Millions)*	*Revenues*		*Kilowatt-hours Per Customer*
			Aggregate	*Per Kwh.*	
Agencies ...	11,079,714	110,832	$1,349,450,000	1.22¢	10,003
Companies ..	40,829,824	370,089	6,670,989,000	1.80¢	9,064
U. S. Total .	51,909,538	480,921	$8,020,439,000	1.67¢	9,265

as to include all of the very large loads, individually rerated according to the most nearly comparable power company tariff, to give a really clear picture. But state and class data are sufficient at least to raise questions as to where a more thorough—and, incidentally, more expensive examination might lead.

MERE over-all average revenues per kilowatt-hour do indeed confirm the assumption that benefits actually received by ultimate consumers are in line with those granted to power agencies for transmission. (See Table I, page 146.)

The savings of better than 30 per cent thus indicated can be expressed as aggregate dollars by assuming that the agency customers would otherwise have had to pay 1.8 cents per kilowatt-hour, the average company revenue. (See Table II.)

Six hundred and forty-five million dollars is a lot of money. It would exceed any conceivable estimate of foregone taxes. It might well equal or exceed the sum of all favorable factors.

In his "Financial News and Comment" column in PUBLIC UTILITIES FORTNIGHTLY, August 16, 1956, after considering estimates comparable to Table I above and a long list of *input* benefits —tax exemptions, lower money costs, preferred access to hydro, etc.—Owen Ely concluded: "it is surprising that there is not a greater difference in the average rate figures."

There are numerous complications, however. Some companies still distribute "nonpreference" federal power. Many agenices buy power from companies at wholesale rates which may (but in some "competitive" cases may not) reflect full taxation up to the substation. It would seem to require a meticulous compilation of benefit *input* to argue either: that $645 million is too little benefit *output;* or, on the other hand, that it includes at least a few millions attributable *per se* to "breaking the scarcity economics of monopoly" by operating "for service, not for profit."

BUT will the $645 million benefit *output* estimate stand up? If so, it should survive such a test as separate consideration of the nine statistical regions. (See Table III, page 148.)

From these data, a new estimate of dollar savings to power agency customers can be computed by comparison, not merely with 1.8 cents per kilowatt-hour as in Table II below, but with average revenues per kilowatt-hour for power companies in the same region. (See Table IV, page 149.)

Two hundred ninety-nine million dollars is a far cry from $645 million. Even to consider only the positive savings of $473 million suggests that not all of the

TABLE II

AGENCY CUSTOMERS—1955

	Number of Customers	*Kilowatt-hours (Millions)*	*Revenues (Thousands)*	*Per Kwh.*	*Per Cent*	*Average Bill*
Assumed	11,079,714	110,832	$1,994,976	1.80¢	100.0	$180.06
Actual	11,079,714	110,832	1,349,450	1.22¢	67.6	121.79
Savings			$ 645,526	.58¢	32.4	$ 58.27

benefit *input* as turned over to the managers of power agencies "trickles down to the consumer"—to adopt the phrase used by one of them (Mr. Norwood in the Missoula debate, who was of course denouncing power companies at the time).

But is it fair to the power agencies merely to compare averages which commingle residential users with large industries in perhaps quite different ratios —agencies compared with companies? Were not the agencies set up primarily to benefit the small residential consumer? Has not one of the arguments, especially for denying favorable hydro sites to power companies, been that they have an incurable (*e.g.*, regulatory commissions are powerless to deal with it) propensity to discriminate against small users in favor of large? Was not turning natural resources over to power agencies supposed to correct this situation? Have not some managers gone further and announced policies of charging heavy industry "all that the traffic will bear" in order to gain additional benefits for residential consumers?

Should not a tabulation by service classes also be examined? (See Table V, page 150.)

AGGREGATE savings to power agency customers may now be computed in the same fashion as Tables II and IV (pages 147 and 149). Except for the minor matter of sales to railways, all savings are positive. (See Table VI, page 151.)

Analysis by service classes brings the savings up to a respectable sum again, some $60 million short of the estimate in Table II, but still respectable. Too great a share in the savings seems to be going to large industry and not enough to residential consumers—at least as compared to the announced intentions of government power agencies and their sponsors. Could this be a distortion resulting from the fact that comparisons within a class are of nation-wide averages?

If so, could it be removed by considering both class and region, or since data are available, class by class and state by state? The latter presents difficulties that had been concealed by wider averages. For example, there is no power company activity reported in the state of Nebraska. However, taking the *simple* averages of companies in Kansas and South Dakota appears to provide a rea-

TABLE III
YEAR 1955 BY REGIONS

	Power Agencies			*Power Companies*			*Difference Per Kwh*
Region	*Kwh (Millions)*	*Revenues (Thousands)*	*Per Kwh*	*Kwh (Millions)*	*Revenues (Thousands)*	*Per Kwh*	
New England	1,075	$ 27,312	2.54¢	18,403	$ 468,436	2.55¢	0.01¢
Middle Atlantic	1,219	30,182	2.48¢	79,566	1,582,609	1.99¢	.49R
East North Central	7,476	177,622	2.38¢	99,107	1,691,156	1.71¢	.67R
West North Central	8,233	223,461	2.71¢	20,607	466,232	2.26¢	.45R
South Atlantic	5,894	145,136	2.46¢	48,970	857,113	1.75¢	.71R
East South Central	49,347	329,630	.67¢	20,084	233,748	1.16¢	.49¢
West South Central	4,653	119,232	2.56¢	31,037	536,216	1.73¢	.83R
Mountain	4,475	66,754	1.49¢	14,169	220,660	1.56¢	.07¢
Pacific	28,460	230,121	.81¢	38,146	614,819	1.61¢	.80¢
U. S. Totals	110,832	$1,349,450		370,089	$6,670,989		

R denotes a red figure; *i.e.*, that company revenues per kilowatt-hour are lower.

TABLE IV

POWER AGENCY CUSTOMERS—1955 SAVINGS BY REGIONS

Region	*Number of Customers*	*Kwh (Millions)*	*Saving Per Kwh*	*Aggregate Saving*	*Percentage Saving*
New England	284,419	1,075	0.01¢	$ 108,000	0.4
East South Central ..	1,845,758	49,347	.49¢	241,800,000	42.3
Mountain	445,187	4,475	.07¢	3,133,000	4.5
Pacific	1,856,990	28,460	.80¢	227,680,000	49.7
Total Positive	4,432,354	83,357		$472,721,000	
Middle Atlantic	301,445	1,219	.49¢	$ 5,973,000	24.7
East North Central .	1,487,678	7,476	.67¢	50,089,000	39.3
West North Central .	1,939,145	8,233	.45¢	37,049,000	19.9
South Atlantic	1,636,548	5,894	.71¢	41,847,000	40.5
West South Central .	1,282,544	4,653	.83¢	38,620,000	47.9
Total Negative	6,647,360	27,475		$173,578,000	
Net Totals	11,079,714	110,832	.27¢	$299,143,000	18.1

sonable basis of comparison. At least it makes the Nebraska power agencies show up relatively well.

The several instances ("rural" in 27 states, "large industrial" in 11 states, etc.) in which there are company sales to the class, but none by agencies, have not been reflected in estimates of negative savings.

The reverse situation, agency sales but none by companies, most common in "interdepartmental," has also been ignored. The fact that the same load might be differently classified in agency and company tariffs is bound to produce distortions. These are annoying, but far less significant than the distortion concealed in such simple assumptions as that agency customers would otherwise pay 1.8 cents for each and every kilowatt-hour.

WIDE variations in charges for "street and highway lighting" are undoubtedly due to some being for energy only, and others being in large part rental and maintenance of fixtures. "Rural" also involves disparate services, ranging from summer camps to irrigation pumping. In some states combination of "rural" with "residential" might be reasonable. This would sometimes be to the statistical advantage of the companies, sometimes to the advantage of the agencies—with the

net result in doubt, except that it is not likely to be large.

Statistical advantage can be paradoxical. For instance the sale of the Stevens County PUD to Washington Water Power has generally been interpreted as a defeat for the government power agency side. Statistically, however, it will be an advantage in that the elimination of relatively high rates from the agency column will tend, however slightly, to reduce the average residential revenue per kilowatt-hour for power agencies in Washington. No similar reduction is likely in company averages. Indeed, to the extent that their new customers in Stevens county may have lower than average consumptions until they get used to the lower rates, power company average revenues in Washington will be pulled, however slightly, upwards.

WHILE the computations underlying Table VII (page 152) were made for each class separately, minor classes were combined as "others" to save space.

The purpose of this table is to summarize the differences between four different methods of estimating savings to government power agency customers, using progressively more detail with progressively less reliance upon broad averages.

THE sharp decrease in savings to residential customers as more detail is applied suggests further study of that class. Is it possible that another step would produce a reversal—an increase as did Method Four over Method Three for "small commercial" in Table VII?

It is not possible with available data to divide the statistical "cells" by considering geographical units smaller than states. But it is possible to consider the effect of consumption levels upon average revenues per kilowatt-hour under residential rates.

Other rates commonly require explicit measurement of the customer's maximum demand in kilowatts. But the preponderance of residential sales is under block rates, with the "demand" component concealed in the slope, and the charge determined by kilowatt-hour alone. Moreover, while initial blocks may differ markedly from tariff to tariff, incremental rates are more uniform. Thus from the consumption levels in a given state and the tariff summaries in the Federal Power Commission's *"National Electric Rate Book,"* it is possible to esti-

TABLE V

YEAR 1955

Class	*Power Agencies*			*Power Companies*			*Difference Per Kwh*
	Kwh (Millions)	*Revenues (Thousands)*	*Per Kwh*	*Kwh (Millions)*	*Revenues (Thousands)*	*Per Kwh*	
Residential	31,081	$ 721,566	2.32¢	89,443	$2,465,085	2.76¢	0.44¢
Rural	499	7,325	1.47¢	10,252	221,490	2.16¢	.69¢
Small Commercial	13,419	275,850	2.06¢	67,340	1,717,249	2.55¢	.49¢
Large Industrial	62,958	304,670	.48¢	186,248	1,971,057	1.06¢	.58¢
Street Lighting	783	17,687	2.26¢	3,590	115,749	3.22¢	.96¢
Other Public Auth.	1,583	17,527	1.11¢	8,568	126,952	1.48¢	.37¢
Railways	112	1,351	1.21¢	4,451	51,150	1.15¢	.06R
Interdepartmental	397	3,475	.88¢	197	2,257	1.15¢	.27¢
Totals	110,832	$1,349,451		370,089	$6,670,989		

mate (to the nearest half-cent) what power companies in that state would charge for incremental kilowatt-hours; *i.e.*, the difference between company and agency average consumption levels. This concept is comparable to the "incremental charge" used by the FPC in some of its bill comparisons.

To illustrate the process summarized in Table VIII (pages 154, 155) with the first state, Tennessee, it appears that 875,729 power agency residential customers paid bills averaging $69.62 for an average 5,812 kilowatt-hours at an average 1.20 cents, as is shown in the first four columns. On the other hand, 28,325* power company residential customers paid average bills of $74.17* for an average 4,448 kilowatt-hours, or 1.67 cents. (Starred items have been omitted to save space, but could be recalculated from Table VIII.)

IF these company customers increased their consumptions to 5,812 kilowatt-hours most of them would pay one cent per kilowatt-hour (column 7, from a tariff of Kingsport Utilities, Inc.) for the additional 1,364* kilowatt-hours. The average bill would then be $87.81* and the average per kilowatt-hour 1.51 cents (column 8). Power agency customers pay $18.19 (column 9) or 0.31 cents per kilowatt-hour (column 10) less than company charges thus adjusted to a common level of consumption. Their aggregate savings of $15,931,000 (column 11) are based on multiplying $18.19 by 875,725.

Data for other states, arranged in Table VIII in descending order of per customer savings, were developed in essentially the same manner. However, in 27 states (28 counting the Carolinas, which are grouped in the original data) power company residential consumptions are higher than agency. Hence the incremental adjustment (column 7) is applied against the last kilowatt-hour actually taken and the adjusted revenues per kilowatt-hour (column 8) is higher than the unadjusted (column 6).

THE relationship between residential consumptions and average charges per kilowatt-hour also is shown on the graph (page 153) where circles denote government power agency averages plotted from columns 3 and 4 of Table VIII, and crosses company averages from columns 5 and 6. Identification of states would have cluttered the graph, but the adjustment procedure in Table VIII may be at least roughly visualized. Graphically

TABLE VI

POWER AGENCY CUSTOMERS—1955

Class	*Number of Customers*	*Kwh (Millions)*	*Saving Per Kwh*	*Aggregate Savings*	*Per Cent*	*Per Customer*
Residential	9,878,148	31,081	0.44¢	$136,756,000	15.9	$ 13.84
Rural	28,618	499	.69¢	3,443,000	32.0	120.31
Small Commercial	1,112,260	13,419	.49¢	65,753,000	19.2	59.12
Large Industrial	35,678	62,958	.58¢	365,156,000	54.5	10,234.77
Street Lighting	6,798	783	.96¢	7,517,000	29.8	1,105.77
Other Public Auth.	17,104	1,583	.37¢	5,857,000	25.0	342.43
Railways	17	112	.06R	67,000R	(Negative)	
Interdepartmental	1,091	397	.27¢	1,072,000	23.6	982.58
Totals	11,079,714	110,832	.53¢	$585,487,000	30.3	52.84

this consists in drawing a straight line (which would be a hyperbolic arc on a normal scale) from each cross to the point on the infinity line corresponding the adjustment figure (column 7 of Table VIII) for that state. Moving the cross, to the right or the left as the case may be, along this adjustment line to the point directly above or below the circle for the same state would produce a vertical comparison equivalent to column 10 of Table VIII.

SEVERAL states have shifted relative positions as a result of the adjustment for consumption levels. Florida, for instance, where unadjusted revenues per kilowatt-hour are identical, becomes the sixth best state for the agencies when company charges are adjusted. Illinois, however, has shifted from a positive saving of 0.15 cents per kilowatt-hour to a negative "saving" of 0.09 cents.

The "negative savings" estimated by statewide comparisons for the Dakotas, Montana, and Wyoming appear unduly high. These may well be cases in which the use of smaller statistical "cells"—were this practicable—would change the picture. But such changes would undoubtedly be offset in other states—merely dividing New York into upstate and metropolitan areas, for example.

The general impression given by Table

(Continued, page 155)

TABLE VII

POWER AGENCY CUSTOMERS—YEAR 1955

	Residential	*Small Commercial*	*Large Industrial*	*Others*	*Total*
Number	9,878,148	1,112,260	35,678	53,628	11,079,714
Kwh (Millions)	31,081	13,419	62,958	3,374	110,832
Revenues (000's)	$721,566	$275,850	$304,670	$47,364	$1,349,450
Revenue Per Kwh	2.32¢	2.06¢	0.48¢	1.40¢	1.22¢
Kwh Per Customer	3,146	12,065	1,764,617	62,915	10,003
Method One: Simple Proration of Over-all Average (See Table II)					
Savings (000's)	$345,170	$131,956	$145,743	$22,657	$645,526
Per Kwh	1.11¢	0.98¢	0.23¢	0.67¢	0.58¢
Per Customer	$34.94	$118.64	$4,084.95	$422.48	$52.27
Per Cent	32.4	32.4	32.4	32.4	32.4
Method Two: Comparison of National Averages by Classes (See Table VI)					
Savings (000's)	$136,756	$65,753	$365,156	$17,822	$585,487
Per Kwh	0.44¢	0.49¢	0.58¢	0.53¢	0.53¢
Per Customer	$13.84	$59.12	$10,234.77	$332.32	$52.84
Per Cent	15.9	19.2	54.5	27.3	30.3
Method Three: Comparison of Regional Averages by Classes					
Savings: Positive	$103,214	$43,986	$242,438	$15,641	$405,279
(000's): Negative	27,994	3,483	7,632	1,038	40,147
: Net	$75,220	$40,503	$234,806	$14,603	$365,132
Per Kwh	0.24¢	0.30¢	0.37¢	0.43¢	0.33¢
Per Customer	$7.62	$36.42	$6,581.25	$272.32	$32.96
Per Cent	9.4	12.8	43.5	23.6	21.3
Method Four: Comparison of State Averages by Classes					
Savings: Positive	$61,949	$57,505	$242,915	$16,071	$378,440
(000's): Negative	35,410	8,092	8,948	1,466	53,916
: Net	$26,539	$49,413	$233,967	$14,605	$324,524
Per Kwh	0.09¢	0.37¢	0.37¢	0.43¢	0.29¢
Per Customer	$2.69	$44.43	$6,557.74	$272.34	$29.29
Per Cent	3.5	15.2	43.4	23.6	19.4

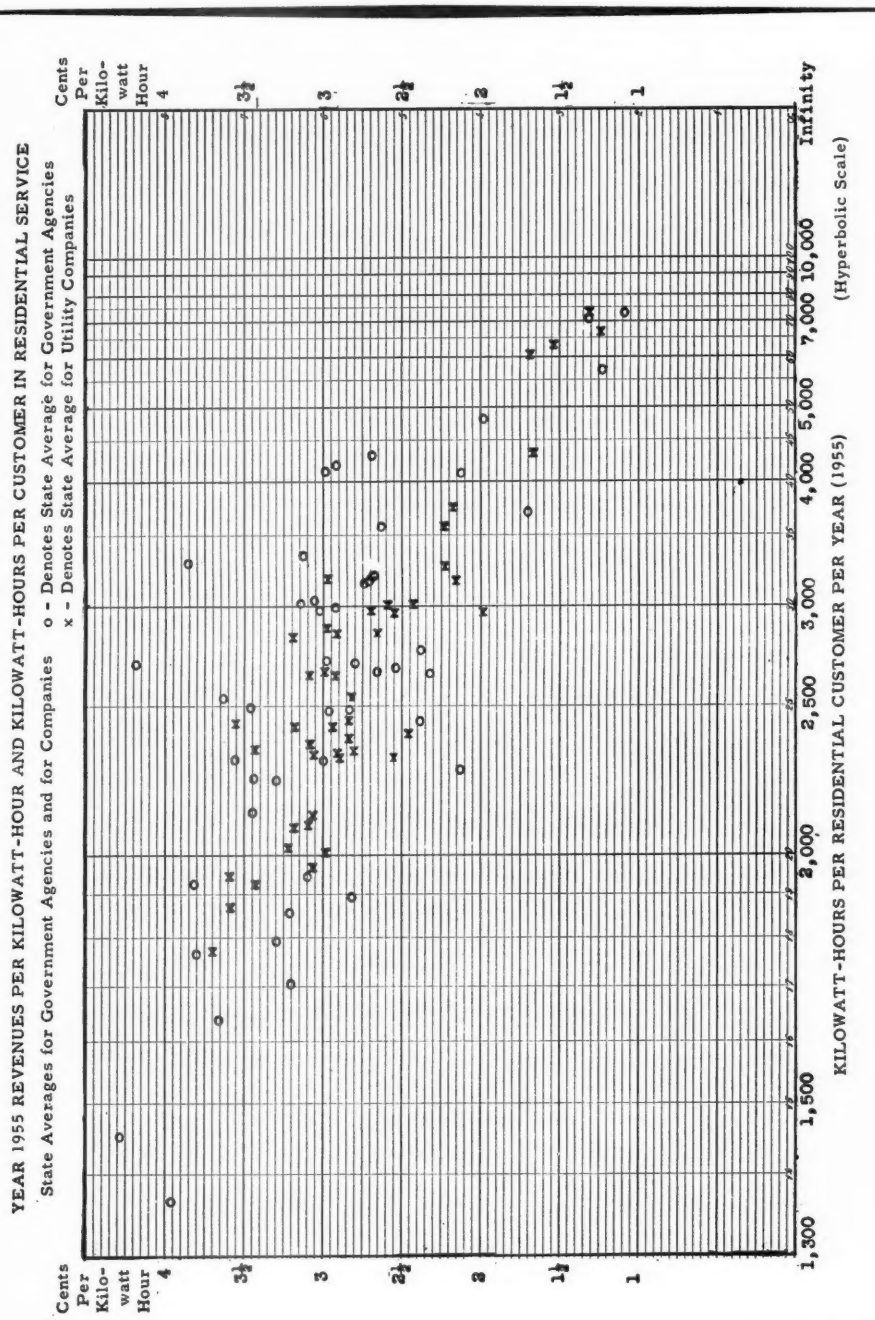

YEAR 1955 REVENUES PER KILOWATT-HOUR AND KILOWATT-HOURS PER CUSTOMER IN RESIDENTIAL SERVICE
State Averages for Government Agencies and for Companies
o - Denotes State Average for Government Agencies
x - Denotes State Average for Utility Companies
Cents Per Kilowatt Hour
4
3½
3
2½
2
1½
1
1,300
1,500
2,000
2,500
3,000
4,000
5,000
7,000
10,000
Infinity
KILOWATT-HOURS PER RESIDENTIAL CUSTOMER PER YEAR (1955)
(Hyperbolic Scale)

TABLE VIII

RESIDENTIAL CUSTOMERS ONLY—YEAR 1955

Average Payments Per Kilowatt-hour to Power Agencies Compared with Power Companies and with Company Data Adjusted to Confrom with Average Consumption of Agency Customers, whether Higher or Lower.

	Agencies		*Companies*						*Savings*		
	Number of Customers	*Average Bill*	*Kwh Per Customer*	*Revenue Kwh ¢*	*Kwh Per Customer*	*Revenue Kwh ¢*	*Adjustment ¢*	*Adjusted ¢*	*Per Customer*	*Per Kwh ¢*	*Aggregate (000's)*
(Column No.)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(States in Which Agency Customers Save as Much as $1 Per Month)											
Tennessee	875,729	$69.62	5,812	1.20	4,448	1.67	1.0	1.51	$18.19	0.31	$15,930
California	1,041,813	47.63	2,260	2.11	2,366	2.81	2.5	2.82	16.14	.71	16,815
Mississippi	267,569	60.93	2,631	2.32	1,974	3.08	2.0	2.81	13.09	.49	3,502
	2,185,111										$36,247
(States in Which Agency Customers Save 30 Cents, But Less than $1 Per Month)											
Washington	465,120	$77.19	7,136	1.08	6,791	1.22	1.0	1.21	$9.23	.13	$4,293
Massachusetts	165,184	60.02	1,871	3.21	1,960	3.61	3.0	3.64	8.00	.43	1,329
Florida	294,872	82.21	2,757	2.98	3,202	2.98	1.5	3.22	6.54	.24	1,928
Vermont	24,595	74.49	2,157	3.46	2,433	3.56	2.5	3.69	5.18	.23	127
Arkansas	156,180	58.80	1,703	3.45	1,879	3.58	2.0	3.74	4.90	.29	765
Nebraska	386,395	85.23	3,116	2.74	2,503*	3.08*	2.0*	2.87	4.14	.13	1,600
Utah	45,496	57.94	2,439	2.37	3,595	2.21	1.5	2.54	4.08	.17	186
	1,537,842										$10,228
(States in Which Agency Customers Save Something Less than 30 Cents Per Month)											
Rhode Island	2,183	$54.51	1,374	3.97	1,780	3.71	2.0	4.22	$3.49	.25	$ 8
New York	107,471	60.79	1,954	3.11	2,053	3.22	2.0	3.28	3.26	.17	350
Alabama	263,313	63.53	3,748	1.69	2,973	1.96	1.0	1.76	2.59	.07	682
Oregon	74,600	91.70	7,011	1.31	7,289	1.31	1.0	1.33	1.22	.02	91
Pennsylvania	138,050	68.94	2,296	3.00	2,628	2.92	2.0	3.03	.67	.03	92
Carolinas	636,770	53.32	1,892	2.82	3,780	2.17	1.5	2.84	.47	.02	299
Michigan	218,325	70.99	2,666	2.66	3,004	2.59	2.0	2.67	.10	.01	22
New Hampshire	20,572	62.61	1,458	4.29	2,368	3.49	2.0	4.30	.05	.01	1
	1,461,284										$1,545
(States in Which Agency Customers Pay Up to 30 Cents Per Month More) Savings Negative											
Georgia	343,704	$65.74	2,784	2.36	3,253	2.16	1.0	2.35	$0.30	.07	$ 103
Texas	613,735	73.32	2,493	2.94	2,428	2.95	1.5	2.91	.82	.03	503
Virginia	141,271	70.85	2,492	2.84	2,999	2.65	2.0	2.78	1.52	.06	215
Kentucky	265,538	67.97	2,674	2.54	2,314	2.56	2.0	2.48	1.53	.06	406
Arizona	59,142	94.32	3,585	2.63	2,555	2.81	2.0	2.58	1.85	.05	109
Ohio	356,767	77.10	2,746	2.81	2,853	2.67	1.5	2.72	2.49	.09	888
Illinois	229,507	87.83	3,006	2.92	2,333	3.07	2.0	2.83	2.80	.09	643
Maine	12,424	67.37	1,771	3.80	2,431	3.18	2.0	3.62	3.24	.18	40
	2,022,088										$2,907
(States in Which Agency Customers Pay over 30 Cents But Less than $1 Per Month More)											
Louisiana	173,960	$59.62	1,627	3.66	2,102	3.10	2.0	3.42	$4.01	.24	$ 698
West Virginia	3,910	59.85	1,790	3.34	2,015	2.99	2.0	3.11	4.18	.23	16
Idaho	28,820	95.45	4,823	1.98	6,170	1.67	1.0	1.85	6.02	.13	173
Oklahoma	203,338	73.13	1,913	3.82	1,971	3.43	2.5	3.47	6.74	.35	1,370
Delaware	22,530	91.74	2,530	3.63	2,824	3.19	2.0	3.33	7.40	.30	167
Indiana	342,713	85.49	3,131	2.73	2,974	2.55	1.5	2.49	7.42	.24	2,543
Missouri	349,635	72.98	2,217	3.29	2,466	2.84	2.0	2.92	8.03	.37	2,808
Minnesota	352,464	95.02	3,004	3.16	2,661	2.99	2.0	2.87	8.67	.29	3,056
New Jersey	27,358	76.80	2,230	3.44	2,149	3.07	2.0	3.03	9.17	.41	251
Iowa	244,488	108.40	3,473	3.12	2,402	3.21	2.0	2.84	9.89	.28	2,418
Wisconsin	208,895	88.04	3,260	2.70	3,006	2.42	2.0	2.39	10.09	.31	2,108
Connecticut	29,893	82.23	2,308	3.56	2,851	2.91	2.0	3.12	10.18	.44	304
Maryland & D. C.	44,725	93.53	3,063	3.05	2,352	2.91	2.0	2.70	10.82	.35	484
Kansas	229,213	86.59	2,500	3.46	2,371	3.08	2.0	3.02	11.06	.44	2,535
	2,261,942										$18,931

(States in Which Agency Customers Pay over $1 Per Month More) *(Continued)*

Colorado	130,766	$ 89.80	2,975	3.02	2,386	2.83	1.5	2.56	$13.52	.46	$1,768
Nevada	6,490	89.06	4,160	2.14	6,366	1.50	1.0	1.77	15.53	.37	101
New Mexico	51,622	126.28	4,242	2.98	2,106	3.18	2.0	2.59	16.55	.39	854
Wyoming	27,310	126.28	4,321	2.93	2,316	2.90	1.5	2.25	29.37	.67	802
South Dakota ...	88,377	112.80	2,704	4.17	2,634	3.08	2.0	3.06	30.13	1.11	2,663
Montana	39,349	118.66	4,421	2.68	3,375	2.22	1.0	1.93	33.30	.75	1,310
North Dakota ...	65,967	133.20	3,456	3.85	2,866	2.98	2.0	2.81	36.01	1.04	2,375
	409,881										$9,873

Summary:

5,184,237 Agency Customers Saved an Estimated	$48,020,000
4,693,911 Agency Customers Had Negative Savings	31,711,000
9,878,148 Agency Customers Show Net Savings	$16,309,000.

*Based on simple average of Kansas and South Dakota.

VIII and the graph, that in most areas there is not enough difference one way or the other in residential rates to create local popular discontent, may be confirmed by examination of tariffs and bill compilations. The FPC publication "Typical Residential Electric Bills, 1955. Cities of 2,500 Population and More," shows municipal plants having *both* the lowest bill and the highest bill for 250 kilowatt-hours per month in 18 states (not, of course, counting Nebraska). In seven others, power agencies have the highest bill, but not the lowest. In some cases, parity appears to have been deliberate policy, though subsequent change in the power company tariff used as a model might leave the power agency rates a little high or a little low.

THAT there have been relatively few local shifts from company to agency—or vice versa—in recent years is also confirmation. A few dollars a year is not enough to overcome inborn resistance to change, plus, in some cases, local pride and sympathy for plant employees. In others, those who vote to renew a company franchise may not be absolutely adverse to joining a "privileged class." They may be mainly expressing skepticism as to the ability of the city fathers to organize a distribution system that can pass on such benefits as tax exemptions reasonably intact.

Recent emphasis on the "privileged class," who "don't pay taxes on their electric power as you do," would seem to give government power agency advocates an opportunity—not too likely to be used—to pin the "misleading advertising" tag on the companies. Many, if not most, power agency residential customers pay out the equivalent dollars. The difference is that they do not reach the same destination—especially not the federal Treasury.

For power companies, which must continually raise new capital for plant additions at the demand of their customers, the federal corporate income tax is, in effect, an annual charge per dollar of investment, like a property tax or an interest rate. This point should be abundantly clear from many papers written by power company engineers which have nothing to do with any tax controversy, merely with making the most economical choice when one alternative requires more investment than another. The concept is used for similar purposes by the Federal Power

Commission, notably in Technical Memorandum No. 1 where 3.6 per cent of plant investment is suggested for estimating either the annual federal income tax on a company project or part of "taxes foregone" in the case of a government project.

THE 3.6 per cent income tax allowance, being based on a three-year average (1952-54), may have been pulled down by transactions in some companies that will not recur. As high as 4.5 per cent could be justified as an estimate for the future from tax rates and conventional methods of financing. But whatever the rate, it is a return (quite comparable to a preferred stock dividend) which the federal Treasury expects from all power company investment. Even the 3.6 per cent rate is only slightly less than the 3.9 per cent return reported by TVA for the fiscal year ended June 30, 1956. In other words, TVA may be slightly more profitable to the Treasury, if *and only if* one forgets who put up the money.

The $16,309,000 estimated in Table VIII as savings to power agency residential customers in 1955 is equivalent to the federal income tax liability at 3.6 per cent on $453 million of plant or $45.86 per customer. At 4.5 per cent it would cover $362.4 million—only $36.69 per customer.

Unless savings to power agency residential consumers can be established by careful analysis (not merely comparing TVA with distribution through solid rock to small apartments on Manhattan island) to be substantially greater than $16,309,000 annually, it is unnecessary to consider most *input* benefits: cost of money, local taxes, nor anything related to generating facilities. Federal income tax liability on distribution plant represents an *input* benefit to any power agency—even if it buys from a company, or is being compared with a company that gets some federal power. Not even this single item is being fully reflected in *output* benefits to residential consumers.

IF there are any substantial *output* benefits they are going to large industrial customers.

Why?

Following the rule of thumb that power companies (unless, of course, they are imitating government agencies) are always wrong, might suggest that whereas they had long discriminated against small users to favor the large, they are now exploiting the large to favor the small, and the power agencies had stepped forward valiantly to correct this new evil. The lists of crimes of which power companies are accused are so extensive that no doubt "unfair exploitation of industry" has appeared on more than one, but "Vote for Public Power and Give Heavy Industry a Fair Deal" has hardly become the most prominent slogan.

There was no trace of it at Missoula. Mr. Olds predicted dire consequences for small consumers if the federal power program slackened, but did not hint at any increase in large industrial power rates. Mr. Norwood specifically endorsed the "secondary purpose" concept.

This "secondary purpose" theory does not suggest substantial savings to large industry. To be sure, a power agency entrusted with a favorable hydro site might name a rate that was very low compared to other sections of the country so that industry might be induced to migrate and its load "be utilized principally to assure

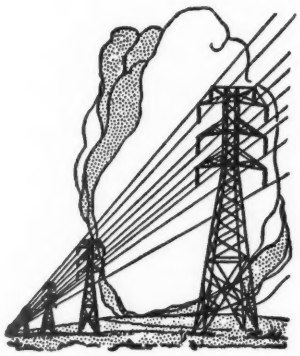


TABLE IX
LARGE INDUSTRIAL POWER—YEAR 1955

	Power Agencies			*Companies*				*Savings*	
	Number Of Customers	*Kwh Sales (Millions)*	*Revenues (000's)*	*Kwh Per Customer (000's)*	*Revenue Per Kwh*	*Revenue Per Kwh*	*Kwh Per Customer (000's)*	*Per Kwh*	*Aggregate (000's)*
Tennessee	3,388	23,494	$111,309	6,934	0.47¢	0.92¢	2,310	0.45¢	$105,723
Washington	2,417	12,533	33,951	5,185	0.27¢	0.74¢	756	0.47¢	58,905
Kentucky	200	12,832	52,560	64,160	0.41¢	0.65¢	3,617	0.24¢	30,797
Oregon	6	1,994	4,138	332,334	0.21¢	1.08¢	836	0.87¢	17,348
Alabama	574	3,025	13,361	5,270	0.44¢	0.85¢	2,150	0.41¢	12,403
Nevada	5	540	2,013	108,000	0.37¢	1.05¢	1,611	0.68¢	3,672
Montana	2	691	1,375	345,500	0.20¢	0.53¢	696	0.33¢	2,280
Oklahoma	11	175	962	15,909	0.55¢	1.26¢	193	0.71¢	1,243
Eight States	6,603	55,284	$219,669	8,373			1,103		$232,371
The Rest	29,075	7,674	85,001	264	1.11¢	1.09¢	728		1,596
U. S. Total	35,678	62,958	$304,670	1,765	0.48¢	1.06¢	753		$233,967

sufficiently high load factor and revenue returns to permit domestic and rural use at the lowest possible rates."[2] But such a rate is not, in theory, necessarily lower than a power company would charge for the same load—same kilowatts and same load factor—at the same location, had a power company been given a license to use that falling water. If possible—*i.e.*, if the traffic will bear it and the industry still migrate—a "secondary purpose" rate should be higher, since unduly low rates to large customers was one of the evils government power agencies were created to prevent.

EVEN a cursory examination of the principal components of the large industrial savings of $233,967,000 shown in Table VII, indicates that while power companies might charge these customers more than the agencies did, it would not be anything like $233,967,000 more.

Power companies in Tennessee would

[2]From the statute creating the New York State Power Authority.

not need the TVA dams, they would not even need to change a figure in their tariffs to permit an industrial load of 6,934,000 kilowatt-hours (unless the load factor was under 30 per cent, which is most unlikely) to "earn" a lower average charge than .92 cents. Washington companies would certainly charge less for loads averaging 5,185,000 kilowatt-hours than the .74 cents that results from applying tariffs to loads averaging only 756,000 kilowatt-hours. The principal industrial load in Kentucky, that of the Atomic Energy Commission at Paducah, is in fact served half by the TVA Shawnee plant and half by Electric Energy, Inc., at approximately the same rates. Merely to consider this and a few other large loads separately from their state averages, would substantially reduce the $233,967,000.

So would treating interruptible power apart from firm. Much of the rest could be accounted for by economies of scale, particularly in distribution, and economies of load factor, particularly affecting generation, which are legitimate reasons for lower rates whether they are reflected through a power company tariff or a government power agency tariff.

BUT not necessarily all. There is another theory of government power agency rate making to consider—a cost theory which is in fundamental conflict with the "secondary purpose" theory, and leads inevitably to the lion's share of any benefits from lower taxes or interest going to the largest loads.

As Mr. Olds was reported to have defined "the legitimate yardstick for costs and rates" at Missoula, "It is properly based on costs related to use of public credit without adding the equivalent of private profits and profit taxes."

"PUBLIC credit" amounts to drafted capital, and with such drafted capital the government power agency can make very low rates for very large loads, the costs of serving which are predominantly carrying charges on investment. In order to make comparably low rates for small consumers, the agency would have to have at least roughly comparable advantages in unit costs of labor. Using draftees from the Signal Corps as linemen, infantry to read the meters, yeomen from the Navy to make out the bills, and MP's on the complaint desks, has not yet been suggested.

Considering the talent available to present such a plan in glowing terms, and considering the Gore Bill, one wonders why not.

If the large industrial loads could be analyzed one by one, the extent to which government power agency rates remained

TABLE X
ESTIMATED BENEFIT OUTPUT BY POWER AGENCIES—1955

Class	*Aggregate*	*Per Kwh*	*Per Customer*	*Per Cent*
Residential	$16,309,000	0.05¢	$1.65	2.2
Small Commercial	49,413,000	0.37¢	44.43	15.2
Large Industrial	116,984,000	0.19¢	3,278.88	27.7
Other Classes	14,605,000	0.43¢	272.34	23.6
	$197,311,000	0.18¢	17.81	12.8

lower than power company rates for identical loads, using the same falling water, etc., would indicate the extent to which government power agency managers were applying "costs related to use of public credit" as compared to "secondary purpose."

It will not give the answer, but indicate the area in which the answer must lie, to assume half and half; *i.e.,* to consider that $116,984,000 of the gross savings to large industrial consumers results from making rates on "costs related to use of public credit" as advocated by Mr. Olds (plus some minor inducements to migrate given under the "secondary purpose" theory). This would leave $116,983,000 due solely to the inherent character of these very large loads.

GOVERNMENT power agency managers or advocates may not accept an estimate of "public credit" savings to large industry seven times those to residential consumers. Entirely apart from what they, Mr. Olds especially, intended, they may consider the ratio too high. And they may be right. But a reduction implies a reduction in total *output* benefits.

On the basis of this investigation, which is not put forth as a completed task, but as a substantial improvement over too simple averaging and a possible impetus to further study, these totals stand as shown in Table X (page 158).

ON the 3.6 per cent basis, $197,311,000 represents the federal income taxes foregone on $5,481,000,000 of investment. On a 4.5 per cent basis it would cover only $4,385,000,000.

It is unnecessary to undertake an estimate of either the actual investment in power agency facilities or the alternative company investment (which might be considerably lower, but hardly as low as $6 billion) to conclude that $197,311,000 is inadequate transmission to ultimate consumers of the single *input* benefit: federal income taxes foregone.

There are other *input* benefits to be considered. If these estimates of *output* benefits are even remotely correct, many millions are missing.

Really Big Operations

"WE hear much about big business. We should hear more, and think more, about big government—which makes the biggest business seem pygmy.

"Our federal government employs more than five million people —while the largest private employer, the Bell system, employs less than 746,000. The government has annual revenues of about $80.8 billion—while the private enterprise with the largest sales, General Motors, has about $12.5 billion. The government has total assets of $165.7 billion in the last year for which such figures are available—while the private enterprise with the biggest assets, Metropolitan Life Insurance, had a little less than $14 billion.

"These and other big private businesses, remember, are huge taxpayers—frequently, taxes account for a larger share of revenues than goes to the owners. Government, by contrast, pays no taxes and lives on our taxes."

EXCERPT—*from Industrial News Review.*

The Changing Expense Pattern Of the Electric Utilities

During the past few years production expenses for steam-generating electric companies dropped ten cents on the dollar. How did this come about? What happened to the saving? Did the consumer get it or the stockholders or the government or a combination of all three?

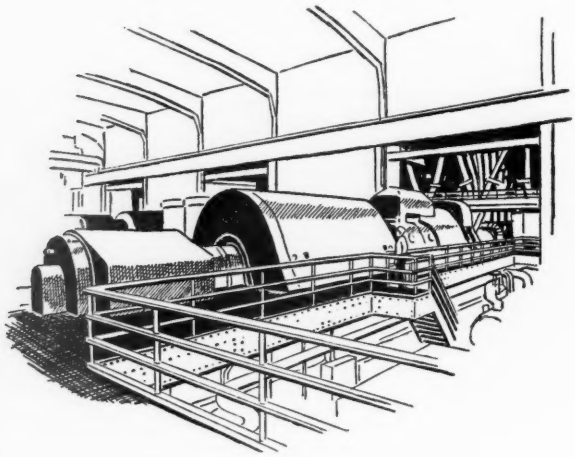
By FRANKLIN H. COOK*

A RECENT article in this publication[1] stated that between 1948 and 1953 production expenses for steam-generating companies dropped ten cents on the dollar of operating revenue. This was a substantial decline, and required investigation. Who profited from the decrease: the consumer; the stockholder; the government; or did an increase in other expenses absorb the ten cents?

Chart I, page 162, contains four groupings of expenditures representing the median purchasing, steam, and hydro companies in the United States for the years 1948 and 1953. Change in production expenses is indicated by the first column; percentages paid to security holders in the second; to government, in the third; and the fourth column shows the static character of all other total operating revenue deductions.

*Professor of business law, Pennsylvania State University. For additional personal note, see "Pages with the Editors."

[1]"Atomic Energy and the Power Industry," PUBLIC UTILITIES FORTNIGHTLY, by Franklin H. Cook, Vol. 57, No. 9, pp. 594-600, 599, April 26, 1956.



The Purchasing Company

BETWEEN 1948 and 1953 there was little significant change in the purchasing company. The consumer benefited slightly at the expense of the stockholder; federal taxes gained to the loss of local taxes. The upper pressure of production expenses was counterbalanced by the reduction in other expense accounts such as depreciation.

An examination of Charts I and II raises some doubts as to the economic worth of the purchasing type of company in comparison with the steam and hydro enterprises. If a purchasing company is measured on the basis of *fairness to the consumer,* it scores poorly for its rates are high; in 1953, 2.7 cents average selling price per kilowatt-hour—over twice the hydro company's rates of 1.3 cents; its average consumption per customer is low, 4,900 kilowatt-hours per year in 1953, to 8,400 kilowatt-hours for the steam company, and 16,300 kilowatt-hours for the hydro. Although it boasts of a high percentage of residential load, the average consumption per residential customer is equally low, 1,900 kilowatt-hours; steam, 2,100 kilowatt-hours; and hydro, 2,300 kilowatt-hours. The problem of high costs with consequent high rates places the purchasing company in an unfavorable position towards meeting the *economic needs of the nation.* A community served by a purchasing company is not in the most advantageous position to attract new industry. Not possessing generating equipment where technological and operational improvements permit a reduction in costs, the purchasing company lacks flexibility in negotiations of this type.

In respect to the third criterion, *payment of taxes,* the purchasing company has been meeting its obligations to the local and federal governments. However, since the company's percentage of profit has not been increasing in terms of the operating dollar, the government's share out of every dollar of operating revenue has not been expanding.

FINALLY, in reference to *fairness to stockholders* the purchasing company will rate high. With about a third of its kilowatt-hours sold to residential users, compared to approximately 20 per cent for the steam and hydro companies, the purchasing company is guaranteed a good income from a demand that is highly inelastic. The earnings, although low in percentage of operating revenue, are high on total capital stock and long-term debt outstanding, 9.5 per cent, compared to 6.3 per cent for the steam company, and 5.6 per cent for the hydro. The security holder in a purchasing company possesses a further benefit from the high proportion of earned surplus retained by the company—usually for the construction of generating equipment, if necessary—14.3 per cent of total assets, contrasted with 7.3 per cent for the steam company, and 7.1 per cent for the hydro. In summary, the purchasing company rates low on its consumer function; high, from the point of view of the investor.

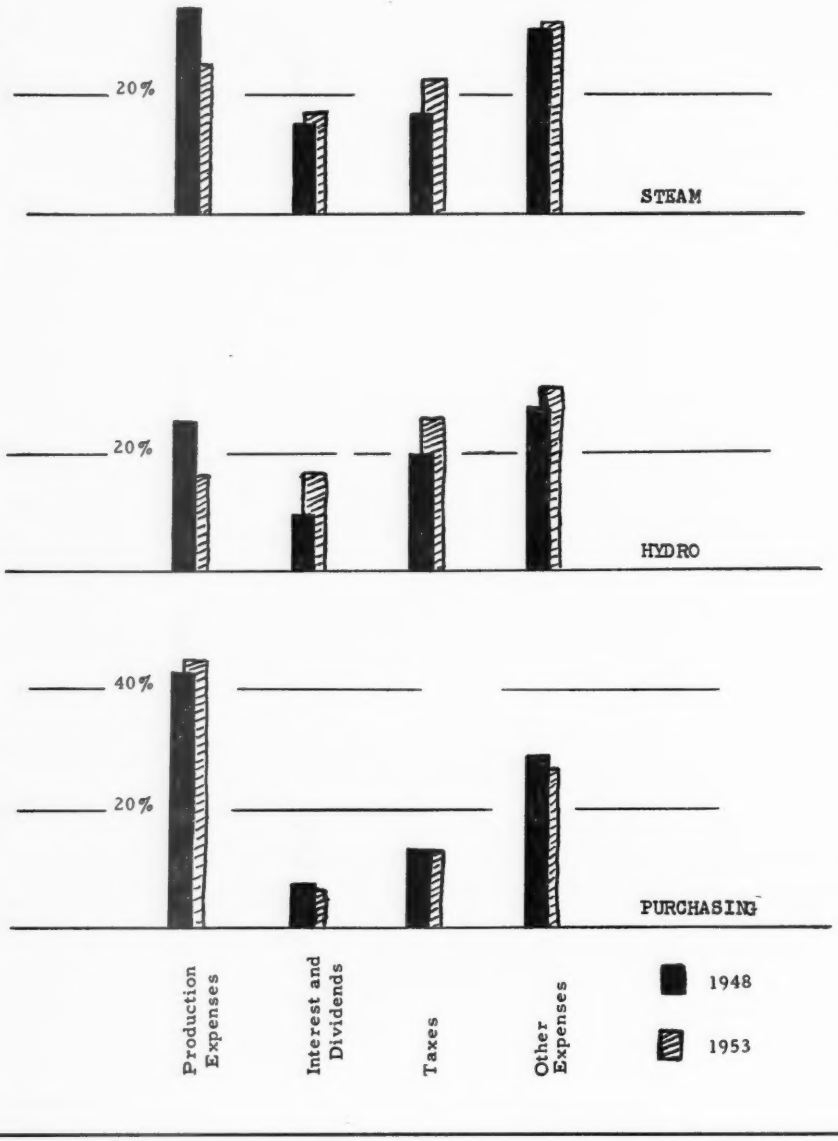
The Hydro Company

FROM 1948 to 1953 the median income for the hydro companies increased a million dollars from $1.2 million to $2.2 million.

A comparison between the two years on Chart I shows that the consumer, security holder, and government

CHART I

DISTRIBUTION OF OPERATING REVENUE AMONG PRODUCTION EXPENSES, SECURITY HOLDERS, AND GOVERNMENT, 1948, 1953



profited. Orrin S. Vogel[2] recently surmised that in the electric power industry annual fixed charges, taxes, interest, and depreciation have offset savings in improved generating efficiency. This is quite true in respect to the 9.5 per cent reduction in production expenses for the hydro company. Note that if the hydro company and its financial structure were static, doubling of operating revenue should almost halve interest and depreciation charges. The fact that such expenses actually increased implies plant and financial changes between 1948 and 1953.

The Steam Company

THE drop from 34 cents to 24 cents in production expenses in every dollar of operating revenue for the steam company may be questioned. It would appear to be contrary to what might reasonably be expected; for, in the main, production expenses are variable expenses, consisting of labor and fuel. Both of these items have been increasing in price between 1948 and 1953; logically, therefore, production expenses should increase, rather than decrease.

However, there is substantiating data to indicate that this decrease is real; that it is not a statistical apparition. First, an examination of the steam companies classified according to size shows that between 1948 and 1953 the drop was common to all: The small company reduced its production costs from 48.5 per cent to 30.9 per cent; the medium, from 25.9 per cent to 20.6 per cent; and the large, from 33.2 per cent to 21.4 per cent. Secondly, there was a similar decline when production costs were measured by kilowatt-hours sold.

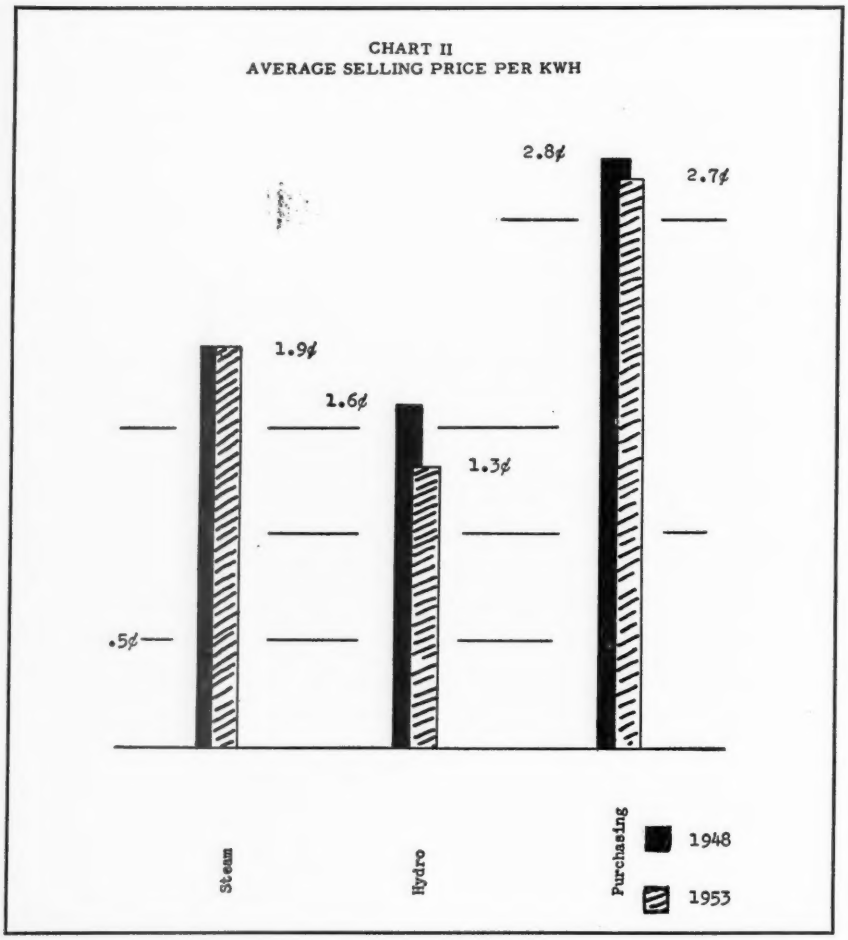
In the Federal Power Commission's figures for all electric power companies the decrease was from 5.7 mills per kilowatt-hour in 1948 to 4.8 mills in 1953;[3] for our own particular steam group the decline moved from 6.5 mills per kilowatt-hour to 4.6 mills. Lastly, a similar drop in production costs appears for the hydro company, moving downward from 25.6 per cent to 16.1 per cent of operating revenue.

THERE is no single statistical evidence to indicate the cause of the lowering of production expenses. But by an examination of several ratios the decrease can be attributed to increased efficiency in production. The decline in production costs in the previous paragraph of 1.9 mills per kilowatt-hour is good evidence of reduced costs through increased efficiency in labor or equipment utilization. Between 1948 and 1953 there was an increase in equipment value from $3.60 in plant value for every dollar of operating revenue to $4.20. During this same period the investment in production plant moved upward from 37.3 per cent of total plant value to 41.1 per cent; and the outlay per kilowatt of capacity jumped from $103.30 to $132. With this higher-priced plant, kilowatt-hours sold dropped from 16.1 in 1948 to 12.6 in 1953 for every dollar invested in plant value.

One might assume that in 1948 the production equipment was operating at a high rate of capacity, and as new equipment was acquired it would not be operated at such high levels. However,

[2]"The Sale of Off-peak Power," by Orrin S. Vogel, PUBLIC UTILITIES FORTNIGHTLY, Vol. 57, No. 12, p. 824, June 7, 1956.

[3]"Statistics of Electric Utilities in the United States, 1953," Table 12, p. XXIV; Federal Power Commission, Washington, D. C.



statistics do not support such an hypothesis, for in 1948 the plant or capability factor for the steam companies was 62.5 per cent, 60.3 per cent in 1953. The production equipment in 1953 as compared to 1948 was more expensive, but less costly to operate.

On the other hand, there is one more aspect of this 10-cent reduction in production expenses that should be explored. The drop from 34 per cent to 24 per cent may represent a return to normalcy. Table I indicates that production costs per kilowatt-hour seem to hover around 4.5 mills per kilowatt-hour:

TABLE I

	1939	*1944*	*1948*	*1953*
Production Expense/ Operating Revenue	*20.2%*	*29.7*	34.1	24.3
Production Expense Per Kilowatt-hour (Mills)	4.2	5.3	6.5	4.6

Source: Federal Power Commission, "Statistics of Electric Utilities in the United States."

Table II shows that as between 1939 and 1953 the consumer gained a 3-mill reduction in average selling price per kilowatt-hour. Practically all expenditures remain the same except production expenses, taxes, and interest and dividends. The latter decreased almost 50 per cent from 1939. It is doubtful whether steam companies will ever again pay out 31 cents of their operating revenue in interest and dividends. However, if production expenses can be further reduced payments to security holders may approximate taxes.

The big beneficiary from the improved efficiency of the steam-electric power companies has not been the consumer, the bondholder, nor the stockholder, but the federal government. In 1948 federal taxes were less than local taxes; in 1953 they were almost twice as great, representing 15 cents out of every dollar paid by the consumer for electric energy. This figure is greater than the total amount received by security holders in 1948 and almost equal to the total tax bill in that year. The 22 cents paid out in taxes by the median steam company in the United States is about equal to the net operating revenue for the company, or the sum available for the bondholders, stockholders, and additions to surplus. Needless to say, it is at least 25 per cent more than the total interest and dividends expended.

THE tax rate per kilowatt-hour has not decreased as have production expenses; it has not remained constant, but it has increased from 3.1 mills per kilowatt-hour to 4.24 mills per kilowatt-hour. Operating efficiency reduced the cost of electricity by two mills per kilowatt-hour; one-half of that saving was taken in taxes; the other half went to management.

Quantitatively, taxes for the median steam company increased from $2,287,900 in 1948 to $4,170,000 in 1953; whereas, production expenses declined from $4,671,700 to $4,544,100. By 1953 the expenditure for taxes and production expenses approximated one another.

The implications of this government absorption of the rewards of management efficiency are profoundly basic. They involve such considerations as the profit motive, should electric power companies be tax collectors, and should private power companies be forced to compete with public power projects which do not possess a tax load of this magnitude.

Theoretically, management of a steam-electric power company will react to these figures by stating: Why should we worry, plan, fire and hire, incur financial, tech-

TABLE II

Median Steam Company	*1939*	*1944*	*1948*	*1953*
Operating Revenue (Millions)	$ 6.3	9.5	13.7	18.7
Average Selling Price Per Kilowatt-hour	2.1¢	1.8	1.9	1.9
Average Cost Per Kilowatt-hour, Excluding Interest and Dividends	1.6	1.4	1.5	1.4
Total Operating Revenue Deductions (Per cent of Operating Revenue)	66.1%	78.2	79.6	77.8
Operating Expenses	43.7	48.7	54.7	45.0
Depreciation	9.5	9.6	8.4	9.8
Taxes	14.0	20.4	16.3	22.3
Interest and Dividends	30.8	17.0	14.7	17.3

Source: Ibid as Table I.

nological, and operational risks when neither we, the customer, nor the stockholder get the reward? Such a query might have carried weight in 1900, but not today. It would have more potency in a competitive industry. But in the electric power field there is already a great deal of regulation, so that management is accustomed to work hard for other rewards than profits.

ELI CLEMENTS plainly asserts that the government places high taxes on the utilities because they are such good tax collectors.[4] This predisposition may be a practical justification for discrimination, but it is not an ethical one. In percentage of gross income the electric power industry pays out a greater proportion than nonutility groups. It is three times greater than all industry, four times as much as agriculture, forestry, and fishing, three times as much as manufacturing, and over twice as much as mining.[5]

But the real festering sore in the body of the electric power industry, the cause of which has never been removed, is the great difference between the tax burden on government power companies and that on similar power company projects. In 1953 the median steam company paid 22 cents out of every dollar of operating revenue to the local and state governments in taxes; the hydro, 25.5 cents; the purchasing, 12.5 cents. In local taxes that same year TVA paid 3.3 cents of total revenues, or 5 cents of every dollar of sales to private users. The median tax paid by municipalities and co-operatives using TVA power was 4.6 cents, or a total of 9.6 cents, 2.2 cents greater than the local tax load for the steam company, and 1.7 cents less than the hydro company of 11.3 cents. TVA, its municipalities and co-operatives, paid no federal taxes.

THE basic implications of the changing expense patterns analyzed for the three types of companies, purchasing, hydro, and steam, are: that the hydro company although an efficient form of production, fulfilling its responsibilities to the consumer, investor, and government, has production characteristics and geographic restrictions that limit its usefulness in a dynamic expanding nation. In the future, the purchasing company, like the hydro company, will not adequately meet the needs of the national economy. High costs of power to the ultimate consumer are the chief obstacles here. At the moment the pressure of increased production costs has not induced the stockholders to turn to generation or to sell their assets to generating concerns, and the security holders are so well-treated that a transition of this type may be far away in the future. Since approximately 75 per cent of the energy generated today is by steam, the drop of production expenses by 10 cents in every dollar of operating revenue from 1948 to 1953 by the steam companies is noteworthy. This 10-cent reduction did not show up to the consumer in decreased rates, but most of it went to the federal government in a larger tax bill. Such discovery immediately generates the question: Could government power compete with power companies if this burden were removed?

[4] *"Economics and Public Utilities,"* by Eli Clements, Appleton-Century Crofts, Inc. New York, 1950, p. 542.

[5] "Statistics of Income for 1952," p. 42. U. S. Treasury Department, Washington, D. C.

How Important Are Interest Rates?

The high plateau for money rates in all categories of debt has held fairly steady in recent weeks. Most financial economic experts are predicting a continuation of the "tight money" situation, at least for the first half of 1957.

By WILLARD F. STANLEY*

THE sensational rise in interest rates on long-term utility debt has spotlighted this item in recent months. Triple A-rated electric utility bonds have recently been offered at about a 4 per cent yield, with lower-rated first mortgage securities bearing offering yields around 4.5 per cent. This exceeds anything experienced for several decades. Only time will tell whether this reflects temporary excessive demand for funded debt money by industrial and other borrowers or whether it reflects a permanent high plateau for long-term interest rates.

These higher rates accentuate the problem of the proper timing of funded debt offerings. The electric utility industry has largely adopted the fundamental principle of "financing as you go." High federal income tax rates have cushioned the impact of higher interest rates. All this has tended toward the feeling, often perhaps subconscious, that the yield at which utility funded debt is sold is important chiefly as a matter of prestige for the company and its management. The economic impact of interest rates has tended to be underemphasized in some quarters.

*Former utility executive and financial writer of New York. For additional personal note, see "Pages with the Editors."

With continuous expansion, and consequent financing at frequent intervals, it has become increasingly recognized that interest rates may tend to average out in the long run—those paid on offerings in years when rates are low offsetting the greater fixed charges required in periods of higher interest, such as the present.

WHILE the matter has been the subject of much general consideration and discussion, a comprehensive analysis of the impact of interest rates on electric utilities still seems a felt want.

Everyone is aware that there is a dollar saving in lower interest rates for funded debt—a saving which, over the relatively long life of utility bonds, can be substantial. For example, it is simple to compute that on a $10 million bond issue maturing in thirty years (the customary present maturity for first mortgage bonds of electric utilities) a difference of one-half of one per cent per annum in interest yield is $50,000 a year. Multiplied by 30-year life this aggregates $1.5 million. After deducting income taxes at the present rate of 52 per cent, such net difference is reduced to $720,000, or 7.2 per cent of the principal of the bonds. If these figures are changed to reflect a one per cent per annum sinking fund, with approximate life of the issue thus reduced to twenty-five years, they become about $1.25 million and $600,000—before and after taxes respectively. These are important amounts viewed long range. Obviously, the matter is more important dollarwise to large utilities than small, but in terms of percentage, interest yields are equally important to companies of all sizes.

Another measuring rod is the percentage of higher interest to an arbitrarily assumed "norm." For example, if 3 per cent were taken as a normal rate for triple A-rated electric utility first mortgage bonds, then an increase of one-half of one per cent per annum in interest would mean an increase of 16⅔ per cent.

Let us now attempt to measure the interest rate impact in terms other than dollars and percentage of increase.

For instance, the cost of raising money to build facilities may realistically be considered as related to the cost of the facilities. How much would increased interest affect such cost?

Then there is another yardstick—the impact on common stock earnings of a normal electric utility, due to higher interest charges.

IN the case of both these yardsticks one fundamental principle emerges. While an obvious one, this principle may be overlooked or minimized. It is that the impact of higher interest increases with a higher percentage of expansion of facilities.

Thus an electric utility expanding at an annual rate of 10 per cent will feel the impact of higher interest (in terms of added cost of facilities) not twice as much as a company expanding only 5 per cent annually (as might be expected), but nearly three times as much. The proportionate impact is even greater for the rapidly expanding utility in terms of common stock earnings.

This added impact on the expanding company is due principally to the fact that while amounts of internal funds to finance additions are static, regardless of the rate of expansion, external funds, including the utility's first mortgage bonds,

	Percentages of Annual Expansion Of Facilities				
Approximate Percentage Increase in Cost of Facilities Resulting from Following Increases in Rates of Bond Interest Per Annum:*	5	8	10	12	15
One-quarter of 1%	1	1.3	1.4	1.5	1.6
One-half of 1%	2	2.7	2.9	3.0	3.2
1%	4	5.4	5.8	6.0	6.4
Approximate Percentage Decrease in Common Stock Earnings Resulting from Following Increases in Rates of Bond Interest Per Annum:*					
One-quarter of 1%	.04	.1	.12	.15	.2
One-half of 1%	.08	.2	.25	.3	.4
1%	.17	.4	.5	.6	.8

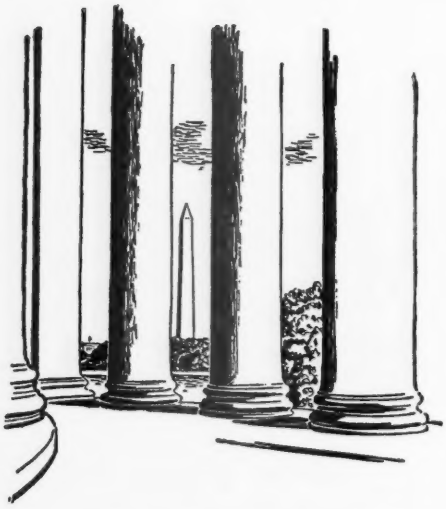
*After giving effect to deduction of federal income taxes; bonds are assumed to have 25-year actual life, reflecting one per cent per annum sinking fund; bonds are assumed to be issued up to 60 per cent of additional capitalization (*i. e.*, cost of expansion, plus sinking funds, less depreciation charges); common stock earnings assumed to be 12 per cent of common stock book equity, consisting of 35 per cent of net plant; percentages of expansion relate to net plant; depreciation assumed at 2.8 per cent of net plant; retained earnings assumed at 30 per cent of common stock earnings, after paying 70 per cent thereof in dividends.

must be increased to reflect the additional expansion. (*E.g.*, see above table.)

THE above table demonstrates that the impact on cost of facilities is much greater (percentagewise) than on common stock earnings. This is obviously because the latter impact is limited to the annual increase in interest (or one twenty-fifth of the total), whereas the cost of facilities is affected by the total interest increase over the entire 25-year assumed life of the bonds. The percentage effect on common stock earnings is in all cases less than one per cent. With substantial expansion of 10 per cent it amounts to only about one-half of one per cent. On the other hand, the same rate of annual expansion produces almost 6 per cent increase in the cost of facilities. Both of the last examples are based on a one per cent per annum interest differential.

Paying 6 per cent more for property is a sizable increase, so it appears that a substantial increase in interest rates (anything close to one per cent) would have a material effect on cost of equipment for a rapidly expanding utility. To utilities expanding at 5 per cent or less per annum the increase is somewhat smaller, but still enough to warrant that every effort be made to time the bond offerings so as to obtain the lowest possible yield.

THIS would not mean abandoning the basic over-all concept of "financing as you go," or relying on long-range predictions from a crystal ball, but merely using the best judgment available as to the timing of the bond offering from a minimum of several months to a maximum period of a year. When interest rates have been relatively stable for a long period, the timing aspect loses much of its importance. But when, as at present, interest rates have run up rapidly in a short span of time to around peak levels for decades past, then timing may become of considerable importance, particularly in the impact upon rapidly expanding utilities.



Washington and the Utilities

Seaton's Press Conference

In his State of the Union message on January 10th, President Eisenhower devoted a special section of his message to restating his firm support for the "partnership" theory of developing the nation's water resources. He said partnership of federal, state, and local authorities in development of projects for irrigation, flood control, power production for domestic and industrial use would bring about the greatest possible economy and efficiency because of "a live sense of local responsibility."

All this came six days after the press conference of Secretary of Interior Seaton on January 4th. Seaton's conference had been looked forward to, by the journalists of the nation's capital, as likely to provide clews of the administration's future power policy and other matters affecting the Interior Department. It was a successful conference as such matters go—cordial, informative—the Secretary's replies were responsive and to the point. There was only a minimum and understandable amount of evasion, such as when an attempt was made by one reporter to get the Secretary to express an opinion on natural gas legislation, which is outside of Interior's bailiwick.

But after the conference was over a number of Washington correspondents felt that the Secretary had left a good deal unsaid, and some important matters yet to be developed or clarified in the months ahead. The most controversial question was the administration's so-called "partnership policy," whereby local government agencies and private companies are to be permitted and encouraged to participate with the federal government in the construction of multipurpose dams. As far as the general principle is concerned, Secretary of Interior Seaton, foreshadowing his chief executive, was very forthright in saying there would be absolutely no retreat from the partnership policy.

But when Seaton was pinned down by questions about the department's future plans for developing the John Day site on the Columbia river and the Pleasant Valley site on the Snake river, there was caution. The Secretary agreed that the department was considering a proposal for a high government dam at Pleasant Valley at the site where the Pacific Northwest Power Company is now seeking an

FPC license to develop. Seaton said he had not yet seen a pending report on engineering and economic feasibility because it had only recently been completed and delivered to him.

So, as to Pleasant Valley, Secretary Seaton had not yet made up his mind. Asked whether Interior would intervene in the Pleasant Valley license proceedings before the FPC, the Secretary also postponed any definite decision. On the other hand, Seaton said that invitations are still open to private companies, public utility districts, and others who are interested in partnership proposals for hydro development generally. He said that Interior was still opposed to a federal high dam at Hell's Canyon on the Snake river and indicated that the department would even present opposition testimony to congressional committees if that type of legislation progressed to the point when such testimony would be required. It probably won't.

But the rumors which have been circulating for several weeks, about a shift in Interior Department plans, do not involve a federal high dam at Hell's Canyon. They involve a federal dam at Pleasant Valley, which might well flood out one Hell's Canyon site, already licensed by the FPC for development by the Idaho Power Company, along with two other sites on the Snake river at Oxbow and Brownlee.

THE attitude of the FPC may have a decisive effect on any proposal to build a federal multipurpose project at Pleasant Valley. Hearings on private company plans for development at this site have now been concluded. If Interior is to intervene with a plan of its own it must do so in the near future. An examiner's decision on Pacific Northwest Power Company's application is expected to be forthcoming by April 1st. If Interior intervenes between now and April, the commission will be left with the decision either to license the private project, notwithstanding Interior objection (such as was done in the Roanoke case in Virginia in 1951), or to recommend to Congress that a federal high dam be authorized. If Interior does not intervene, it may be taken as a signal that the partnership program is still the administration's prevailing policy and that it applies to Pleasant Valley.

Less expected was any change in attitude with respect to the John Day project, often singled out as a good example of "partnership" policy possibilities in power development. Although Congress has never authorized this project, the administration has in the past backed a plan whereby private companies would furnish some $273 million of the $310 million estimated cost of the project in return for exclusive rights to the power for fifty years. Rumors have it that this plan may be replaced by an all-federal multipurpose development at John Day.

WHY does the Interior Department seem to be even considering any change or modification in the partnership power policy? The official explanation would probably be that department experts are swinging to the belief that the only way to insure multipurpose development on the Columbia and Snake rivers is to have the federal government go ahead with the job—that it would cost less and might result in more efficient operation. So run the usual arguments for federal projects. There is also speculation that political considerations have intervened, as the result of local congressional elections last November which were not to the administration's liking. And the soundness of such a conclusion is very debatable.

Finally, there is the more practical

consideration that the administration is simply tacking with the prevailing wind in the present Congress but not changing its ultimate direction of encouraging private and local participation in area developments. It might be pointed out that a hard core of government power bloc Democratic Senators from Oregon, Washington, and Montana—now reinforced by Church of Idaho and Carroll of Colorado —have virtually served notice that they are prepared to fight any attempt by the administration to implement its so-called "partnership policy" development on the rivers in that area.

Since the Eisenhower administration has never shown any enthusiasm for beating its head on a stone wall, the present period of reappraisal within the Interior Department may simply be a regrouping operation, after which new approaches and plans, as well as some new labels, may be made public. Washington observers are still searching for hard clews along these lines in the details of the annual budget.

The Michigan Atom Plant

WOULD the CIO labor unions, which have been so articulate and vociferous in their opposition to the plan for building a "fast breeder" reactor plant near Detroit, Michigan, be so active if that program were being carried out by the federal government instead of by a private company group? This rather cynical question is probably the only one not openly asked nor answered in the battle of publicity which followed the brief hearings by the AEC on January 8th. But the subsequently disclosed strategy of the labor union attorneys to postpone and drag out the hearings, while at the same time unleashing a barrage of propaganda questioning the safety of the Michigan plant operations, strongly suggests to more sophisticated observers that the real opposition of the unions is ideological rather than operational.

In short, the unions would rather have the federal government, through the AEC, build this plant. If enough fuss can be stirred up and enough delay brought about, they think the 85th Congress might be persuaded to pass some kind of a bill directing the AEC to take over and direct the immediate construction of its own reactive plant. The AEC's hearings were recessed until January 28th after the Power Reactor Development Company, which now has a license to go ahead, had presented its case before J. A. Kyle, assistant chief hearing examiner of the Federal Communications Commission on loan to the AEC. After the January 28th hearing disposes of objections and cross-examination of testimony to date, the unions will have additional time to present their case of opposition, and they will surely take it—extending the whole procedure throughout the winter and perhaps into the spring.

Following the one-day testimony, the company witnesses and others held a press conference at which background statements and explanations were released and questions answered. The next day the United Automobile Workers held their own press conference at which the AEC was accused of "violating" the law in giving the go-ahead to the Lagoona Beach, Michigan, atomic plant before safety and financial regulations have been satisfied.

AT Examiner Kyle's hearings, which were primarily to review but not necessarily redetermine the AEC decision to continue a construction permit for the Michigan plant, the following issues were explored: (1) whether there are neces-

sary financial qualifications shown; (2) whether there is reasonable assurance of additional technical information; and (3) whether a reactor "of the general type proposed" can be constructed and operated without undue risk to public safety.

Among witnesses appearing for the Detroit power reactor group were: Ernest R. Acker, vice president of the Power Reactor Development Company and president of Central Hudson Gas & Electric Corporation; Dr. Hans A. Bethe, professor of physics, Cornell University; Dr. Norman Hilberry, deputy director of AEC's Argonne National Laboratory; W. Kenneth Davis, director, division of reactor development, AEC; Walter J. McCarthy, Jr., engineering section head, Atomic Power Development Associates; and Alfred Amorosi, technical director of the latter organization.

Dr. Bethe's testimony was most noteworthy in exploding the idea that there ever could be an explosion (atom bomb type) at the Michigan plant. He gave technical reasons and explanations, pointing to the impossibility of a major detonation of fissionable materials under such circumstances, even if everything went wrong and controls failed. The implication seems to be that the most disastrous effect would simply be plant destruction in whole or in part through melting down of the facilities or portions of it.

THE testimony so far indicates that the question of safe operation is a matter which cannot be explored by AEC until a reactor is further along in actual construction. One year of tests with limited quantities of nuclear fuels is planned for 1960. This, however, is dependent upon the issuance of a reactor operator's license to PRDC some time in 1959. PRDC is satisfied that a workable exemption for its member companies is possible under the amended SEC rule which excludes those engaged in reactor research and development from regulation under the Holding Company Act.

Gas for Florida

BARELY meeting a year-end deadline, the FPC has given conditional approval to plans for construction of a natural gas pipeline from Texas to Florida. The decision (3 to 2) permits Houston Gas & Oil Corporation and Coastal Transmission Corporation to go ahead with their $150 million project which will supply the first natural gas service to Florida. Conditions include requirements that the companies submit financing plans in advance to the commission and that proposed rates to two Florida electric companies, planning to use 60 per cent of the pipeline's initial capacity, be raised. Houston Gas will also be required to delete provisions permitting Florida Power & Light Company and Florida Power Corporation to cancel their agreements or reduce their use of gas under certain conditions.

FPC Commissioners Connole and Kline dissented to granting Florida pipeline authority on the ground that the conditions imposed indicate that the project is "economically impossible of completion." The dissenting commissioners fear the two Florida electric companies will refuse to use the gas for generating electricity if they are charged a higher price. This would leave 60 per cent of the pipeline's capacity unused. Commissioner Connole said it was "stretching one's confidence in corporate magnanimity to the breaking point" to expect the power companies to subsidize, in effect, a new source of energy in Florida.

Telephone and Telegraph

REA Phone Program

THE Rural Electrification Administration reports that thousands of rural subscribers received new dial telephone service during 1956 as a result of its telephone program. REA telephone borrowers placed in service an estimated 271 new dial exchanges and completed an estimated 27,700 miles of line during the 12-month period. Since the start of the REA telephone program seven years ago, some 250 individual borrowers have placed in operation 990 dial exchanges with the aid of REA financing. These borrowers also constructed 81,800 miles of telephone line.

The total number of REA telephone borrowers passed 500 during the year. This is in addition of an estimated 93 new borrowers during the year. Telephone loans for 1956 are expected to total $82 million, which will bring the total loans under the program to $351 million as of the end of the calendar year.

The independent companies and co-operatives which borrowed REA funds during 1956 expect to provide modern dial service to 176,600 farm families and other rural subscribers. REA loans will result in new and improved service for 783,500 farms, rural businesses, schools, churches, and homes when proposed construction is completed.

About $71.4 million in loan applications were received by REA during 1956. As of December 31st, loan applications on hand amounted to about $49 million.

Year-end figures on repayments on REA telephone loans are not yet available, but as of November 30, 1956, borrowers had repaid $2,220,289 in interest and $2,640,795 in principal. At that time 25 borrowers were in arrears thirty days or more on payments amounting to $549,-495.

Florida Rate Case

THE Florida Railroad and Public Utilities Commission has handed down a rate decision of unusual interest because of its emphasis on the increased cost of capital. The decision involved the Peninsular Telephone Company.

Peninsular requested additional revenues of $2,462,108 of which the commission allowed $1,479,226, found to be the additional earnings required to enable the utility to remain in a strong financial position and continue to meet the public demand for adequate and efficient telephone service.

The rate increase gives the company a rate of return of 7.08 per cent on a system rate base of $57,817,562. Its

previous rate of return was about 5 per cent.

The commission said that neither the rate base nor the rate of return is particularly important if the utility is allowed to earn sufficient dollars to meet various needs, such as operating expenses, including depreciation and taxes, fixed charges, dividends on preferred stock and common stock, and dollar reserves.

THE commission's approach resulted in a 13 per cent rate increase for the company. Rejecting expert testimony favoring a higher rate of earnings based on increased cost of capital, the commission said:

> Frankly, the actual experience of the utility over the years cannot be reconciled easily with the theories and opinions expressed in support of higher earnings requirements advocated in this proceeding. It seems to us that our only reasonable course is to determine the utility's revenue requirement on the basis of actual needs as disclosed by its operating statistics. The marketing of its securities has not been hampered in the past. If its financial position in the future is maintained on the same or a somewhat higher level, it should, in our opinion, experience no difficulty in securing necessary additional capital.

Summing up its philosophy of regulation, the commission stated:

> It is a traditional concept of public utility regulation that a utility is entitled to a just and reasonable return on the fair value of the property devoted to the public service. In many instances, the rate of return is the starting point in rate making. Actually, the rate of return is nothing more than a yardstick for measuring the utility's earnings in relation to its investment.

FCC Clarifies Position

THE Federal Communications Commission does not agree with assertions by the National Broadcasting Company that the granting of a television station to an applicant bars the Justice Department from bringing an antitrust suit at a later date. The commission's views were contained in a letter from FCC Chairman McConnaughey to Senator Magnuson (Democrat, Washington), chairman of the Senate Commerce Committee.

The Justice Department has charged that the acquisition by NBC of certain TV stations constitute a violation of the antitrust laws. NBCs' defense has been that the FCC approved the acquisitions objected to by the Justice Department. Chairman McConnaughey's letter will undoubtedly weaken this argument. "In the light of the provisions of the Communications Act," McConnaughey wrote, "the commission has taken the position that an action by it in an adjudicatory proceeding finding a particular grant of a license to be in the public interest cannot and does not insulate that transaction from further challenge by the department (of Justice) under the antitrust laws."

The commission's attitude is somewhat different, however, so far as option time arrangements, station ownership limits, or other general broadcasting policies approved by the FCC are concerned. Decisions on these matters involve the exercise of the commission's rule-making powers, McConnaughey said, and while the Justice Department is not precluded from adopting a contrary position in an action under the antitrust laws, the successful prosecution of such an action would be more difficult. Justice Department officials have in the past expressed misgivings about option time arrangements under which affiliated stations are required to

take a specific number of hours of network programs daily.

McConnaughey said the FCC is careful to ascertain Justice Department views before issuing general policies that might have antitrust aspects. He also assured Senator Magnuson that no legislation or policy changes were needed to improve liaison between Justice and the FCC.

IN another letter to the Senate Commerce Committee, the FCC said it has no intention at this time to cut rates charged by American Telephone and Telegraph Company for television transmission service.

Complaints that AT&T's rates are too high were aired before the Senate committee's television hearings last summer. Following the hearings, the FCC requested AT&T to make a series of studies to show its investment, expenses, and return on TV transmission service.

"Based upon our reviews and analyses of these studies, and the level of earnings indicated thereby," the FCC said, "we have concluded that we would not be warranted at this time in instituting formal action on our own motion looking toward downward adjustments in the over-all level of rates applicable to the service. However, we are giving continuing consideration and study to the rates and rate structure involved, and we shall take appropriate action to effect such adjustments therein as our studies show to be desirable."

New Challenge to Bell Pension Plan

A $100 million recovery suit has been filed in federal district court at Kansas City, Kansas, alleging unwarranted deductions by the Bell system from its employee pension fund. The suit claims the Bell system has been deducting from the pensions an amount equal to half the pensioner's federal aid under an offset method of integrating private pension plans with social security benefits. The Bell system has recently changed its plan so that a retired employee's private pension payments cannot be reduced after his retirement date regardless of any changes made in social security benefits.

The Kansas City suit may force the U. S. Supreme Court to rule directly on the issue.

REA Equity Ruling

REA-FINANCED telephone co-operatives are seeking equal treatment with commercial companies in the application of REA equity requirements. Officials of the National Telephone Co-operative Association are concerned about a memorandum by Everett C. Weitzell, chief of the REA Telephone Operations and Loans Division, which permits waiver of the rule requiring total deposit of equity funds by commercial companies in exceptional cases.

The co-op officials do not oppose such relaxation of equity requirements but want to be sure that co-ops are permitted to benefit as well as commercial companies. The policy memorandum would permit waiver of total equity deposits prior to obtaining loan funds if the borrower has exhausted all reasonable means of obtaining the required equity and it is in the best interests of the program to permit the borrower to proceed with construction. Additional security for the REA loan would be required in the shape of supplementary mortgage provisions, possibly specifying that no dividends be paid or salaries increased, or capital stock either purchased or redeemed, until the equity requirements were completed.

Financial News and Comment

By OWEN ELY

Tippy Forecasts Gas Industry Trends

WILLIAM B. TIPPY, president of Commonwealth Services, in a recent talk before the New York Society of Security Analysts made a general review and forecast of trends in the gas utility industry. As reflected in the chart (page 181) based on AGA data, index numbers reflecting growth for various factors in the industry are as follows:

	1947	*1952*	*1956*	*1960 Est.*	*1965 Est.**
Customers	100	121	138	156	180
Sales	100	177	246	311	392
Revenues	100	177	283	382	504
Gross Plant Account	100	179	255	372	523

*Not shown in chart.

Customers have been growing at an annual rate of 3.66 per cent in the past decade, but the projection for 1960 assumes a growth rate of 3.15 per cent. While this rate may seem slow, it must be remembered that many new customers now being reported were earlier served from utility systems supplying manufactured or LP-gas, or with natural gas obtained from other sources. In the past decade a substantial number of small communities received gas for the first time from any source, but there will be fewer of these new communities receiving service for the first time in the years ahead, in view of an anticipated slowing up in the building of new pipelines to open up new areas to natural gas. In future much of the sales growth will be in suburban or outlying areas and many distribution companies are reviewing their main extension policies to make sure they will adequately serve these less densely populated suburban areas.

THE sharp divergence in the customer curve and the sales curve reflects the increase in house heating since natural gas has become more widely available, and also the increased use of other gas appliances. The rapid increase in coal and oil prices after decontrol in 1946, Mr. Tippy pointed out, also improved the competitive position of gas both for home and industrial use.

DEPARTMENT INDEX

	Page
Tippy Forecasts Gas Industry Trends.	177
Volume of 1956 Utility Financing Not Much Affected by Tight Money ...	179
New Restrictions on Bond Redemption Provisions	180
Table—December Utility Financing ..	180
Chart—Growth Trends in Gas Industry	181
Table—Analysis of 1956 Utility Financing	182
Table—Data on Electric Utility Stocks 183, 184,	185

House heating also accounts for differing trends in sales to different groups of customers. Residential sales have increased from 33.8 per cent of total sales in 1947 to an estimated 34.6 per cent in 1956 and an estimated 36 per cent in 1960, while commercial sales declined from 10.4 per cent to 9 per cent, and industrial and other sales have held fairly constant around 55-56 per cent. Total sales per customer averaged 1,400 therms in 1947 and have grown to an estimated 2,480 in 1956 and a projected 2,770 by 1960.

The forecasts for 1960 and 1965 do not reflect the possible gains from sales of gas for air conditioning. The research departments of the AGA and of a number of manufacturers last year spent about $1.5 million toward developing better gas air-conditioning units. According to Mr. Tippy at least ten reputable manufacturers are already either producing units, developing field test units, or conducting intensive research prior to starting production.

Through the year 1953 the curves for sales and revenues almost moved together, but in later years there has been a diverging trend due to changes in the sales mix and also reflecting the higher field cost of gas. Average revenue per therm is expected to increase from the 1947-53 range of around 4.7 cents per therm, and the present 5.4 cents, to around 5.8 cents in 1960.

REGARDING plant construction, investment in gross plant is now nearly $15 billion compared with less than $6 billion in 1947, and is expected to increase nearly 50 per cent to $22 billion in 1960. Construction expenditures are estimated at $1.75-$2 billion per annum over the next four years, while the industry is adding about a million customers a year.

Indications from companies representing about half the construction program show that they expect to cover 35 per cent of this new investment from internal funds, 48 per cent from new debt issues, and 17 per cent from "new equity." The latter figure presumably includes preferred as well as common stock financing. Of the total, new-money financing debt would thus provide 74 per cent and stock financing 26 per cent. According to a tabulation of utility financing (page 179), in 1955 preferred and common stock financing approximated 30 per cent, and in 1956 28 per cent, of all gas utility financing.

Regarding the future competitive position of gas in relation to coal and oil, Mr. Tippy stated that despite continuing technological advances the cost of coal at the mine is more apt to increase than decrease, and this is also true of freight costs which are an important factor in the delivered cost. Coal pipelines may cut transportation costs in future but will apply only to concentrated markets like the major eastern power plants, where gas has never been much of a factor.

OIL producers face problems of deeper and more expensive drilling, a higher ratio of gas to oil in new discoveries, etc., hence Mr. Tippy expects that both No. 2 oil used for domestic house heating and No. 6 commonly used for boiler fuel will rise in price in future years. Gas is also affected by higher production costs, but Mr. Tippy states, "It's true that the price of gas at the wellhead has been rising fairly rapidly in recent years, and economic factors will tend to continue this rising trend—with or without regulation of producers by the Federal Power Commission—but unless the situation gets out of hand, gas should still be able to maintain enough competitive margin to keep its position in our growing economy."

Regarding gas reserves, he took an optimistic stand, mentioning the possibility of ultimately recoverable reserves in the

order of 1,000 trillion cubic feet, as indicated to the McKinney Committee by the Bureau of Mines, of which 125 trillion have already been produced and nearly 225 trillion are proved and 650 trillion remain to be discovered. Despite these ample reserves the AGA research organization is seeking to develop economical methods of manufacturing substitute gases. One is a two-step approach where synthesis gas with low heating value is made from coal or oil or even shale oil, and such gas is then improved in heat content by the process known as methanation. The second approach is by the direct hydrogenation of coal into a synthetic natural gas. In 1957 AGA hopes to complete an integrated experiment to carry one process through from coal pile to finished product, ready for the mains. The lowest estimated cost of such gas is now about 60-70 cents per Mcf, according to Mr. Tippy, but it is hoped research will ultimately reduce this to 45-50 cents, which would be about the same cost as natural gas delivered to New England.

REGARDING underground storage, he pointed out that there had been an eightfold increase in reservoir capacity in the past decade, with total capacity now approximating 2,096 billion cubic feet. It is estimated that by next winter (1957-58) maximum daily availability from storage will increase to nearly 10 billion cubic feet, and withdrawals from storage could account for one-quarter of the total gas sent to market on the peak day in that winter.

Volume of 1956 Utility Financing Not Much Affected by Tight Money

TOTAL utility financing for 1956 (as shown in the table on page 182) approximately $3,539,000,000, compared with $3,652,000,000 in 1955. However, excluding refunding operations and divestments, new-money financing in 1956 exceeded 1955 by about $100 million. In 1956 common stock financing was a larger proportion of the total, but this was due to the huge American Telephone issue. Electric and gas utilities sold more senior securities and less common stock, despite high money rates. The proportion of different kinds of securities was approximately as shown in table below, by groups.

Regarding the type of financing—*i.e.*, the methods used to place securities in the hands of the public—the electric utilities increased the proportion of negotiated underwritings, presumably because of market irregularities, and reduced the amount of stock sold by subscription. Private security sales for all utilities were also considerably reduced and last year amounted

	Electric	*Gas*	*Telephone*	*Total**
1956 Financing				
Long-term Debt	65%	72%	50%	61%
Preferred Stock	17	22	2	12
Common Stock	18	6	48	27
Total	100%	100%	100%	100%
1955 Financing				
Long-term Debt	62%	70%	88%	72%
Preferred Stock	14	9	3	9
Common Stock	24	21	9	19
Total	100%	100%	100%	100%

*Including miscellaneous.

only to about 10 per cent of total financing *versus* 20 per cent in 1955. The decline was mainly for gas securities, where private sales are usually large; gas utilities also reduced the proportion of securities sold by subscription. The proportion of negotiated underwritings was higher, following the same trend as for the electric utilities. In the telephone tabulation American Tel. & Tel. financing dominates the picture. Issues sold through competitive bidding aggregated considerably more than in 1955.

DECEMBER financing, as compiled for the electric and gas companies by Irving Trust Company (see table below), aggregated $118 million as compared with $198 million in November and a monthly average for the year of about $200 million. Spreads between yields on new offerings and those on similar but seasoned issues remained wide, amounting to nearly one per cent for the small issue of Sierra Pacific Power first 5¼s, which were offered on a 5.10 per cent basis. On January 10th, however, another northwestern utility issue—$12 million Pacific Power & Light first 5⅜s of 1987—was offered at 102.643, the yield to maturity working out at 5.20 per cent. Both companies have a Moody bond rating of Baa. Pacific P&L also offered $9 million serial preferred stock to yield 6 per cent.

At this writing (January 14th) the bond market is enjoying a rally, possibly sparked by year-end reinvestments and President Eisenhower's suggestion that Congress authorize a citizens' commission to conduct a sweeping investigation of the nation's financial system and credit policy. Washington Democrats led by Representative Patman of Texas (foe of the FRB "tight money" policy), want Congress itself to do the job.

New Restrictions on Bond Redemption Provisions

IN 1950 utility companies refunded about three-quarters of a billion dollars of senior securities, and in 1954 over a billion dollars worth—the latter representing

DECEMBER UTILITY FINANCING

PRINCIPAL PUBLIC OFFERINGS OF ELECTRIC AND GAS UTILITY SECURITIES

Date	*Amount*	*Description*	*Price To Public*	*Underwriting Spread*	*Offering Yield*	*Moody Aver. For Securities Of Similar Quality*	*Moody Rating*	*Success Of Offering, Etc.*
12/4	$10.0	Dallas Power & Lt. 1st 4¼s 1986..	100.85	.76C	4.20%	3.77%	Aaa	a
12/6	20.0	Long Island Ltg. 1st 4⅜s 1986....	102.75	1.15C	4.58	3.88	A	d
12/12	15.0	Florida P. & L. 1st 4⅜s 1986.....	101.26	.67C	4.30	3.82	Aa	d
12/12	3.0	Sierra Pac. Pr. 1st 5¼s 1986.....	102.29	1.07C	5.10	4.17	Baa	d
12/13	30.0	Texas Eastern Trans. Deb. S. F. 5½s 1976.....	100.00	1.50N	5.50	—	Ba	c
		Preferred Stocks						
12/12	8.0	Delaware Pr. & Lt. 5% Pfd.....	102.00	1.78C	4.90	4.53	—	d
		Common Stock—Offered to Public					*Earns.-Price Ratio*	
12/5	31.1	Pub. Serv. Elec. & Gas.....	31.13	.83N	5.78	—	7.63%	a
12/11	10.9	Ark.-Louisiana Gas.....	22.25	1.25N	3.55	—	6.54	a

C—Competitive. N—Negotiated. a—It is reported the issue was well received. c—It is reported the issue sold somewhat slowly. d—It is reported that the issue sold slowly.
Source, Irving Trust Company.

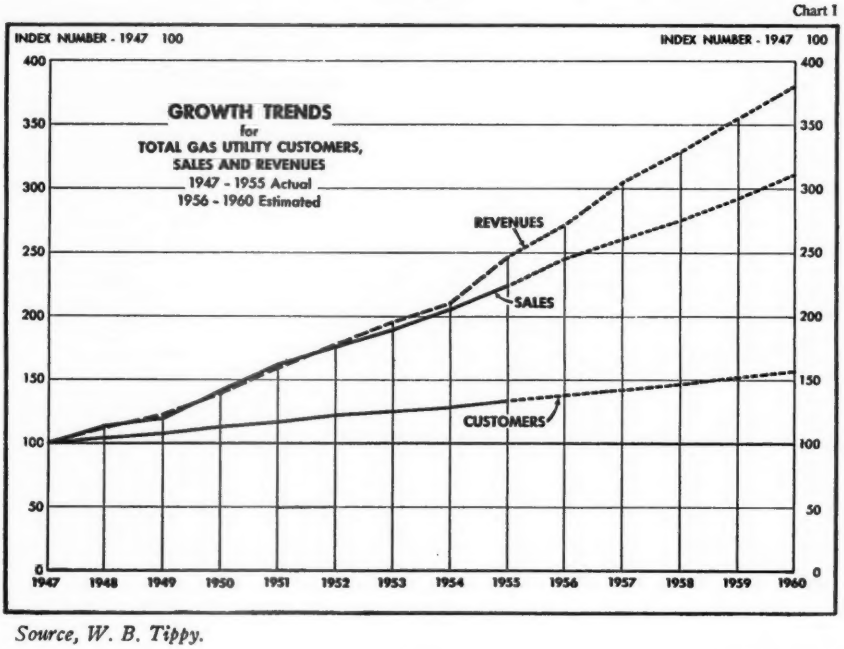
largely issues put out at relatively high coupon or dividend rates in the tight money period of the previous year. The big life insurance companies and other institutional buyers of bonds and preferred stocks did not particularly relish this episode; they would have preferred to keep the high-yielding bonds in their vaults until maturity, rather than cash them and reinvest the money at lower yields.

As a result, where institutions have had any controlling voice in the matter, as with issues privately placed and some others during periods of tight money such as the present, they have proposed various methods to prevent (or make difficult) an early redemption of the entire issue. (Since they usually favor sinking funds, redemption for that purpose would probably not be affected.)

This has applied particularly to some of the pipeline issues in the past decade, either privately placed or bought heavily by institutions. For example, Transcontinental first 3¾s, privately placed in 1954, are callable as a whole only at 115 to 1959, when the call price drops to 105¼. Tennessee Gas Transmission 4½s, offered publicly at par last July, are noncallable for five years. Texas Eastern Transmission first 4s of 1973 and other privately placed issues under the same mortgage are redeemable, but either not for refunding purposes, or with various limitations on a refunding.

MORE recently, with the current "buyers' market" in new issues, there has been a move toward making new issues noncallable and nonrefundable for a period of ten years. This was the case with two large recent issues: the $50 million Sears, Roebuck Acceptance Corp. deben-

Chart 1



Source, W. B. Tippy.

PUBLIC UTILITIES SECURITIES OFFERED FOR SUBSCRIPTION AND/OR SALE (000 omitted)

	January 1 to December 31, 1956					January 1 to December 31, 1955				
	Total	Electric Companies	Gas Companies	Telephone Companies	Other Companies	Total	Electric Companies	Gas Companies	Telephone Companies	Other Companies
Long-Term Debt										
Offered Publicly	$1,702,585	$ 845,500	$268,585	$ 578,000	$10,500	$1,268,007	$ 824,000	$195,507	$ 240,500	$ 8,000
Offered through Subscription	111,806	59,779	1,173	50,854	-	682,064	37,737	7,161	637,166	-
Offered Privately	336,262	44,800	194,715	64,200	32,547	672,580	65,150	486,230	95,350	25,850
Total	$2,150,653	$ 950,079	$464,473	$ 693,054	$43,047	$2,622,651	$ 926,887	$688,898	$ 973,016	$33,850
Preferred Stock										
Offered Publicly	$ 352,042	$ 202,265	$133,800	$ -5,977	-	$ 273,350	$ 157,925	$ 79,300	$ 30,200	$ 5,925
Offered through Subscription	40,402	35,336	5,066	-	-	23,243	23,243	-	-	-
Offered Privately	21,900	10,600	2,500	7,500	$ 1,300	50,200	30,750	10,000	2,250	7,200
Total	$ 414,344	$ 248,201	$141,366	$ 23,477	$ 1,300	$ 346,793	$ 211,918	$ 89,300	$ 32,450	$13,125
Common Stock										
Offered Publicly	$ 166,032	$ 111,666	$ 12,754	$ 39,579	$ 2,073	$ 213,995 1/	$ 104,513	$ 93,602 1/	$ 9,700	$ 6,180
Offered through Subscription	807,761	146,605	27,209	633,947	-	468,663	253,519	119,498	90,015	5,631
Total	$ 973,793	$ 258,231	$ 39,963	$ 673,526	$ 2,073	$ 682,658	$ 358,032	$213,100	$ 99,715	$11,811
Total Financing	$3,538,790	$1,456,511	$645,802	$1,390,057	$46,420	$3,652,102	$1,496,837	$991,298	$1,105,181	$58,786
SEGREGATION OF FINANCING - BY PURPOSE										
Total Refundings	$ 92,832	$ 4,026	$ 52,894	$ 34,482	$ 1,430	$ 230,572	$ 129,348	$ 29,857	$ 71,367	-
Total Divestments	$ 10,903	-	$ 10,903	-	-	$ 82,168	$ 3,150	$ 75,838	-	$ 3,180
New Money										
Long-Term Debt	$2,076,329	$ 950,079	$411,579	$ 673,054	$41,617	$2,427,809	$ 816,887	$669,041	$ 908,031	$33,850
Preferred Stock	395,836	244,175	141,366	8,995	1,300	303,311	194,818	69,300	26,068	13,125
Common Stock	962,890	258,231	29,060	673,526	2,073	608,242	352,634	147,262	99,715	8,631
Total New Money	$3,435,055	$1,452,485	$582,005	$1,355,575	$44,990	$3,339,362	$1,364,339	$885,603	$1,033,814	$55,606
Total Financing	$3,538,790	$1,456,511	$645,802	$1,390,057	$46,420	$3,652,102	$1,496,837	$991,298	$1,105,181	$58,786
SEGREGATION OF FINANCING - BY TYPE										
Competitive Bidding	$1,643,741	$ 913,891	$141,350	$ 578,000	$10,500	$1,273,665	$ 914,871	$111,794	$ 239,000	$ 8,000
Negotiated Sales	$ 576,913 3/	$ 245,500	$273,789	$ 55,556 3/	$ 2,073	$ 481,210 2/	$ 171,568 2/	$256,138	$ 41,399	$12,105
Subscription										
Competitive Bidding	$ 53,721	$ 48,655	$ 5,066	-	-	$ 79,026	$ 43,288	$ 35,738	-	-
Negotiated Sales	183,271	98,735	16,515	$ 68,021	-	252,273	193,741	20,448	$ 34,493	$ 3,591
No Underwriting	722,977	94,330	11,867	616,780	-	842,670	77,469	70,472	692,689	2,040
Total Subscription	$ 959,969	$ 241,720	$ 33,448	$ 684,801	-	$1,173,969	$ 314,498	$126,658	$ 727,182	$ 5,631
Private Sales	$ 358,162	$ 55,400	$197,215	$ 71,700	$33,847	$ 723,258	$ 95,900	$496,708	$ 97,600	$33,050
Total Financing	$3,538,790	$1,456,511	$645,802	$1,390,057	$46,420	$3,652,102	$1,496,837	$991,298	$1,105,181	$58,786

1/ Includes $478,000 common stock sold privately.

2/ Includes $3,000,000 preferred stock sold without underwriting.

3/ Includes $14,377,000 preferred sold without underwriting.

Ebasco Services Incorporated, Corporate Finance Department, January 3, 1957 - AVH

ture 4⅝ of 1972 become redeemable at par in 1967, and the $100 million International Bank for Reconstruction and Development 20-year 4½s become callable at 103 in ten years, and at lower prices in later years. The forthcoming Pioneer Natural Gas bonds will be noncallable for refunding or refinancing for a 10-year period, according to discussions between the company and the purchasers. (Stockholders have been asked to vote January 22nd on authorizing directors to issue these bonds, as part of a refinancing program.)

Where a utility company has been unwilling to follow the new trend and make the issue noncallable for ten years, it is understood that in some cases the terms have had to be improved in other respects, such as making the initial call price higher than the usual five points over the offering price. If the company was unwilling to do this, it may have had to pay a higher coupon rate. It is possible that this explains the very high rate (5⅜ per cent) on the recent Pacific Power & Light first mortgage bonds.

As a possible way out of this dilemma, John Thornborrow, of the Northwestern Mutual Life Insurance Company of Milwaukee, has suggested that with competitive bidding a utility company might ask for *two* bids—one on the basis of the usual call provision, and the other with the 10-year noncallable feature. The utility could then compare the advantages of the two successful bids. Of course the attitude of the commissions regarding such a method of bidding might have to be explored; in general, they do not like innovations too well.

DATA ON ELECTRIC UTILITY STOCKS

Rev. (Mill.)			*1/19/57 Price About*	*Dividend Rate*	*Approx. Yield*	*Recent Share Earnings*	*% Increase*	*Aver. Incr. In. Sh. Earns. 1951-55*	*Price-Earns. Ratio*	*Div. Payout*	*Approx. Common Stock Equity*
$258	S	American G. & E.	37	$1.44m	3.9%	$2.01N*	3%	9%	18.4%	72%	34%
39	O	Arizona Pub. Serv.	24	1.12	4.7	1.74Oc	26	9	13.8	64	31
10	O	Arkansas Mo. Power	23	1.24c	5.4	1.95Se	18	8	11.8	64	30
27	S	Atlantic City Elec.	29	1.30	4.5	1.59Oc	5	10	18.2	82	27
118	S	Baltimore G. & E.	33	1.60	4.8	2.26Se	10	5	14.6	71	41
6	O	Bangor Hydro-Elec.	33	1.90	5.8	2.59Se	23	3	12.7	73	31
5	O	Black Hills P. & L.	23	1.40	6.1	2.06Oc	D5	3	11.2	68	27
91	S	Boston Edison	51	2.80	5.5	3.40Ap	NC	2	15.0	83	53
19	A	Calif. Elec. Power	14	.76	5.4	.94Se	8	17	14.9	81	35
17	O	Calif. Oreg. Power	31	1.60	5.2	2.22Au	10	4	14.0	72	37
7	O	Calif. Pac. Util.	27	1.50	5.6	2.24Oc	2	5	12.1	67	29
58	S	Carolina P. & L.	24	1.10	4.6	1.60Oc	D2	4	15.0	70	37
26	S	Cent. Hudson G. & E.	16	.80	5.0	1.11Se	7	10	14.4	72	33
19	O	Cent. Ill. E. & G.	31	1.60	5.2	2.35Se	16	8	13.2	68	30
33	S	Cent. Ill. Light	55	2.60	4.7	4.06Oc	23	8	13.5	66	41
50	S	Cent. Ill. P. S.	30	1.60	5.3	2.44Se	7	17	12.3	66	35
11	O	Cent. Louisiana Elec.	34	1.60	4.7	2.10Se	21	6	16.2	76	30
33	O	Cent. Maine Power	22	1.40	6.4	1.67N	D7	7	13.2	83	33
114	S	Cent. & South West	36	1.60	4.4	2.29Se	14	13	15.7	70	36
11	O	Cent. Vermont P. S.	17	1.00	5.9	1.19N	D9	2	14.3	84	28
108	S	Cincinnati G. & E.	27	1.20f	4.4	2.09Se	17	8	12.9	57	39
6	O	Citizens Util. "B"	13	.90a	7.0a	1.11Se	2	11	11.7	81	40
104	S	Cleve. Elec. Illum.	39	1.60	4.1	2.61Se	14	9	14.9	61	47
4	O	Colo. Cent. Power	25	1.20	4.8	1.74Se	11	5	14.4	69	24
45	S	Columbus & S. O. E.	31	1.60	5.2	2.16Se	D6	5	14.4	74	37
336	S	Commonwealth Edison	41	2.00	4.9	2.72Se	D4	9	15.0	71	47
10	A	Community Pub. Serv.	23	1.20	5.2	1.80Se	1	18	12.8	67	51
2	O	Concord Elec.	44	2.40	5.5	2.71De	3	2	16.2	89	61

Rev. (Mill.)		(Continued)	1/19/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In. Sh. Earns. 1951-55	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
65	O	Connecticut L. & P.	20	1.00	5.0	1.30N	16	4	15.4	77	33
21	O	Connecticut Power	41	2.25	5.5	2.55Se	18	5	16.1	88	42
494	S	Consol. Edison	45	2.40	5.3	3.14Se	2	10	14.3	76	41
189	S	Consumers Power	48	2.40	5.0	3.31N	5	5	14.5	73	41
71	S	Dayton P. & L.	49	2.40	4.9	3.75Se	16	4	13.1	64	38
34	S	Delaware P. & L.	45	1.80	4.0	2.35Se	5	10	19.1	77	32
220	S	Detroit Edison	38	2.00	5.3	2.27N	D6	11	16.7	88	42
120	A	Duke Power	29	1.20	4.1	1.84Se	8	22	15.8	65	54
89	S	Duquesne Light	36	2.00	5.6	2.45Se	9	4	14.7	82	36
27	O	Eastern Util. Assoc.	34	2.20	6.5	2.61Oc	6	0	13.0	84	36
2	O	Edison Sault Elec.	16	.80	5.0	1.13Se	4	24	14.2	71	40
10	O	El Paso Elec.	43	2.00	4.7	2.65Oc	15	8	16.2	75	39
11	S	Empire Dist. Elec.	21	1.20	5.7	1.50Se	11	1	14.0	79	30
4	O	Fitchburg G. & E.	53	3.00	5.7	3.52De	8	3	15.1	85	55
43	S	Florida Power Corp.	51	1.80	3.5	2.80Se	30	19	18.2	64	34
93	S	Florida P. & L.	47	1.28	2.7	2.40Se	25	16	19.6	53	40
163	S	General Pub. Util.	36	1.90	5.3	3.02Se	15	12	11.9	63	39
6	O	Green Mt. Power	15	1.00	6.7	1.20Se	4	7	12.5	83	37
51	S	Gulf States Util.	36	1.60	4.4	2.17Oc	2	17	16.6	74	31
21	A	Hartford E. L.	58	2.88	5.0	4.46Se	14	12	13.0	65	47
5	O	Haverhill Elec.	40	2.35	5.9	2.62De	34	—	15.3	82	100
18	O	Hawaiian Elec.	38	2.50g	6.6	3.65Se	24	—	10.4	67	37
66	S	Houston L. & P.	50	1.40k	2.8	2.92N	19	20	17.1	48	42
8	O	Housatonic P. S.	22	1.50	6.8	1.41De	19	0	15.6	106	54
25	S	Idaho Power	31	1.20	3.9	2.11Oc	NC	7	14.7	57	35
78	S	Illinois Power	57	3.00	5.3	3.98N	19	6	14.3	75	35
40	S	Indianapolis P. & L.	29	1.50	5.2	2.07Se	8	2	14.0	72	38
19	S	Interstate Power	14	.80	5.7	1.05Se	4	6	13.3	76	31
30	O	Iowa Elec. L. & P.	30	1.50	5.0	2.28Oc	18	10	13.2	66	31
31	S	Iowa-Ill. G. & E.	31	1.80	5.5	2.45Se	6	2	12.7	73	40
35	S	Iowa Power & Lt.	25	1.40	5.6	1.97Se	—	1	12.7	71	35
30	O	Iowa Pub. Serv.	16	.80	5.0	1.10N	20	3	14.4	72	33
13	O	Iowa Southern Util.	22	1.28	5.8	1.81N	11	7	12.2	70	36
56	S	Kansas City P. & L.	39	2.00	5.1	2.77N	18	8	14.1	72	35
27	S	Kansas G. & E.	27	1.32	4.9	2.14Se	12	9	12.6	62	26
40	S	Kansas Pr. & Lt.	23	1.30	5.7	1.96Se	24	9	11.7	66	27
37	O	Kentucky Util.	25	1.28	5.1	2.05Se	D2	9	12.2	62	35
7	O	Lake Superior D. P.	24	1.20	5.0	1.69Se	13	4	14.2	71	38
6	O	Lawrence Electric	29	1.75	6.0	1.87De	34	D	15.5	94	62
17	S	Long Island Ltg.	23	1.20	5.2	1.55Se	20	4	14.8	77	34
52	S	Louisville G. & E.	27	1.10	4.1	1.95Se	1	4	13.8	56	35
7	O	Lowell Elec. Lt.	58	3.00	5.2	3.64De	19	D	15.9	82	59
9	O	Lynn G. & E.	32	1.60	5.0	2.03De	1	8	15.8	79	76
8	O	Madison G. & E.	42	1.80	4.3	4.04Jy	NC	10	10.4	45	47
4	A	Maine Pub. Serv.	16	1.08	6.8	1.03Oc	D21	3	15.5	105	31
5	O	Michigan G. & E.	47	1.60b	6.4b	4.07Se	16	13	11.5	39	35
144	S	Middle South Util.	32	1.60	5.0	2.13N	11	6	15.0	75	35
26	S	Minnesota P. & L.	27	1.40	5.2	2.05N	D1	8	13.2	68	34
2	O	Miss. Valley P. S.	30	1.40j	4.7	2.22Oc	D10	3	13.5	63	31
10	A	Missouri Pub. Serv.	13	.72h	5.5	1.05N	24	19	12.4	69	29
5	O	Missouri Util.	27	1.36	5.0	1.88Se	8	3	14.4	72	36
37	S	Montana Power	42	1.80	4.3	3.18N	8	5	13.2	57	36
130	S	New England Elec.	17	1.00	5.9	1.24Se	2	0	13.7	81	33
40	O	New England G. & E.	18	1.05	5.8	1.51N	10	5	11.9	70	40
44	O	New Orleans P. S.	44	2.25	5.1	2.52N	D5	0	17.5	89	40
2	O	Newport Elec.	18	1.00	5.6	1.40Ja	16	0	12.9	71	34
77	S	N. Y. State E. & G.	38	2.00	5.3	2.91N	6	6	13.1	69	38
210	S	Niagara Mohawk Pr.	30	1.80	6.0	2.22Oc	—	6	13.5	81	34
75	O	Northern Ind. P. S.	37	1.92	5.2	2.86Se	4	6	12.9	67	33
118	S	Nor. States Power	17	.90	5.3	1.20Se	8	9	14.2	75	33
9	O	Northwestern P. S.	16	1.00	6.3	1.38Oc	NC	4	11.6	72	25
123	S	Ohio Edison	51	2.64	5.2	3.77N	7	9	13.6	70	38
40	S	Oklahoma G. & E.	39	1.80	4.6	2.47N	9	10	15.8	74	30
15	O	Otter Tail Pr.	27	1.60	5.9	2.27N	11	9	11.9	70	34
443	S	Pacific G. & E.	50	2.40	4.8	3.51Je	10	16	14.2	68	33
44	O	Pacific P. & L.	31	1.60	5.2	1.98Oc	NC	4	15.7	81	28

Rev. (Mill.)		(Continued)	1/19/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In. Sh. Earns. 1951-55	Price-Earns. Ratio	Div. Payout	Approx Common Stock Equity
123	S	Penn Power & Lt.	46	2.40	5.2	3.46Oc	12	9	13.3	69	29
210	S	Phila. Elec.	37	1.80	4.9	2.53Oc	8	5	14.6	71	40
32	O	Portland Gen. Elec.	23	1.20	5.2	1.69N	2	6	13.6	71	39
58	S	Potomac Elec. Pr.	22	1.10	5.0	1.50Se	16	7	14.7	73	40
77	S	Pub. Serv. of Colo.	40	1.80i	4.5	2.83Se	11	7	14.1	64	38
273	S	Pub. Serv. E. & G.	32	1.80	5.6	2.37Se	8	2	13.5	76	37
67	S	Pub. Serv. of Ind.	38	2.00	5.3	2.48N	4	3	15.3	81	33
26	O	Pub. Serv. of N. H.	17	1.00	5.9	1.23Oc	—	13	13.8	81	36
11	O	Pub. Serv. of N. M.	14	.68	4.9	1.12Se	18	4	12.5	61	33
23	S	Puget Sound P. & L.	26	1.36	5.2	1.62Se	12	10	16.0	84	56
52	S	Rochester G. & E.	29	1.60	5.5	2.22Se	—	8	13.1	72	36
17	O	Rockland L. & P.	18	.80	4.4	.97De	20	11	18.6	82	29
8	S	St. Joseph L. & P.	23	1.40	6.1	1.79Se	7	7	12.8	78	40
45	S	San Diego G. & E.	22	.96	4.4	1.52Se	40	2	14.5	63	40
8	O	Savannah E. P.	43	1.68	3.9	2.76Au	30	5	15.6	61	28
8	O	Sierra Pacific Pr.	22	1.20	5.5	1.48Se	—	14	14.9	81	28
154	S	So. Calif. Edison	47	2.40	5.1	3.20Se	1	3	14.7	75	36
38	S	So. Carolina E. & G.	19	1.00	5.3	1.48N	11	40	12.8	68	29
6	O	Southern Colo. Pr.	14	.70	5.0	1.24Au	D1	11	11.3	56	37
210	S	Southern Co.	21	1.00	4.8	1.52N	15	7	13.8	66	32
16	S	So. Indiana G. & E.	31	1.60	5.2	1.91N	D14	5	16.2	84	33
5	O	So. Nevada Power	17	1.00	5.9	1.39Se	D5	41	12.2	72	34
1	O	Southern Utah Power	16	1.00	6.3	1.42Oc	61	D	11.3	70	38
3	O	Southwestern E. S.	19	1.08	5.7	1.64N	—	4	11.6	66	27
39	S	Southwestern P. S.	27	1.40	5.2	1.76N	18	4	15.3	79	30
21	A	Tampa Elec.	30	1.20	4.0	1.65N	24	10	18.2	73	42
127	S	Texas Utilities	39	1.44	3.7	2.32N	14	13	16.8	62	38
35	S	Toledo Edison	13½	.70	5.2	1.02Se	D4	5	13.2	69	30
12	O	Tucson G. E. L. & P.	30	1.20	4.0	2.01Se	21	10	14.9	60	33
119	S	Union Elec. of Mo.	27	1.52	5.6	1.76Se	4	13	15.3	86	37
30	O	United Illuminating	26	1.30	5.0	1.61De	3	9	16.1	81	51
5	O	Upper Peninsula Pr.	29	1.60	5.5	2.02Se	D8	14	14.4	79	36
38	S	Utah Power & Lt.	25	1.10	4.4	1.69N	10	8	14.8	65	42
106	S	Virginia E. & P.	45	1.80	4.0	2.75N	8	13	16.4	65	34
24	S	Wash. Water Power	36	1.88	5.2	2.23Se	12	14	16.1	84	44
127	S	West Penn Elec.	27	1.50	5.6	2.14N	6	10	12.6	70	29
64	O	West Penn Power	48	2.40	5.0	3.24Se	1	13	14.8	74	33
11	O	Western Lt. & Tel.	33	2.00	6.1	3.03Se	13	7	10.9	66	31
24	O	Western Mass. Cos.	41	2.20	5.4	3.08Se	1	12	13.3	71	52
95	S	Wisc. El. Pr. (Cons.)	31	1.60	5.2	2.31Se	D5	16	13.4	69	39
37	O	Wisconsin P. & L.	26	1.28	4.9	1.80Se	5	4	14.4	71	35
34	S	Wisconsin P. S.	22	1.20	5.5	1.78Oc	5	7	12.4	67	35
		Averages			5.2%			8%	14.2	72%	
		Foreign Companies									
188	S	Amer. & Foreign Pr.	15	$ .80	5.3%	$2.10Je	8%	2%	7.1	38%	46%
139	A	Brazilian Trac.	8	.75m	9.4	1.18De	D7	D	6.8	64	72
63	A	British Columbia Pr.	46	1.20	2.6	2.05De	37	27	22.4	59	27
16	A	Gatineau Power	28	1.40	5.0	2.06De	5	15	13.6	68	30
31	O	Mexican L. & P.	15	—	—	1.80De '55	27	117	8.3	—	45
11	A	Quebec Power	28	1.20	4.3	1.73De	11	12	16.2	69	48
45	A	Shawinigan Wtr. & Pr.	89	1.80	2.0	3.48De	30	22	25.6	52	35

A—American Stock Exchange. B—Boston Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. *Based on average number of shares. a—Estimated annual rate. The "A" stock receives stock dividends. b—Also 3 per cent stock dividend December 31, 1956, which is included in the yield. c—Also 2 per cent stock dividend January 10, 1956. f—Also 5 per cent stock dividend August 15, 1956. h—Also stock dividend of 1 share for each 200 held September 12, 1956. i—Also 10 per cent stock dividend November 16, 1956. j—Also 10 per cent stock dividend August 31, 1956. k—Also 5 per cent stock dividend December 17, 1956. m—Also 2 per cent stock dividend January 10, 1956; 3-for-2 split June 15, 1956. n—Also 5 per cent stock dividend December 28, 1956.

What Others Think

The Utility House Organ — Employee Morale Builder

EVERY month, in 40 states, some 27,000 employees of the American Telephone and Telegraph Company receive a "letter from home," in the form of a profusely illustrated, smartly produced, and extremely interesting house magazine, known as *Long Lines.*

Over the years, the winner of a wide variety of awards for excellence presented by the publishing industry, *Long Lines* has come to be recognized as a leader in the utility company magazine field. But of far greater importance is the fact that ever since its inception it has served as conclusive proof that the house organ—properly handled and boldly conceived—can link together and add cohesiveness to even as sprawling and as vast an organization as AT&T.

As an aide to *Long Lines'* editor Joseph Lindsay put it, only recently, "A long time ago, here at AT&T, we woke to the realization that it was essential that a common bond between the company's workers everywhere be established. The efficient operation of a firm and the progress that it makes, we came to see, depend to a large extent on employee morale, and hinge primarily on imparting to workers the feeling that though thousands of miles may separate them, they are all one—all part of something big and important.

"Ever since, we have attempted to translate this belief into something more concrete; in our case, a company magazine dedicated to linking AT&T's far-flung elements together. Our aim has been—and continues to be—to maintain *Long Lines* as a warm, friendly, personal, and effective communications medium, bringing together worker and worker and employer and employee."

LONG LINES, as its readers would readily agree, has succeeded admirably in achieving the goals it set itself. Moreover, along with a handful of other public utility house organs, it has helped set a pattern for newer company magazines to follow—magazines, incidentally, which have been springing up in increasing numbers, of late, all around the country.

For example, such firms as the New England Telephone & Telegraph Company; the Boston Edison Company; the Southern California Gas Company; the General Telephone Company of Wisconsin; Gulf States Utilities; and the Commonwealth Edison Company of Chicago —as well as dozens of other concerns, large and small—have now come to understand what AT&T learned a long time ago and are currently publishing distinguished periodicals of their own.

Most of them have accepted the fact that a good publication is not only of immense value to a firm as an employee morale builder, but, with variations, can also be used as a powerful public relations tool. Furthermore, the great majority of utilities today turning out publications have likewise made a decided attempt to turn away from the concepts that once ruled the house organ field. Instead of stuffing their columns with "boiler plate" and dull statistics regarding company operations, they are resorting more and more to personal items, popularized reports, and general interest material in no way connected with the firm.

To cite just one instance, the Illinois Bell Telephone Company's *News,* has been so laid out at present that the concern's 53,000 employees are being offered a monthly magazine that is not only informative but fascinating as well. The *News'* 48 pages include fiction, picture stories, personality sketches, and do-it-yourself items, in addition to the usual company notes.

THE TELEPHONE NEWS, published by the Bell Telephone Company of Pennsylvania, for its part, has become so lush that it compares favorably with even some of the finest mass-circulation magazines to be found on the newsstands of the nation. A typical issue, according to J. A. C. Foller—the publication's editor—includes a four-color cover, women's fashions, the latest beauty news, food hints, home furnishing and interior decorating do-it-yourselfs, travel features—and a "nice healthy chunk" of company information.

"We're interested in keeping our people happy, alert, and content with life here at Bell," Foller reports. "This is the purpose our magazine is attempting to serve."

In some instances, utilities have even allowed their house organs to go beyond the original scope set for them. Several years ago, the Arkansas Power & Light Company decided that if its employee magazine could achieve such success as a morale builder, a similar periodical might likewise provide an excellent link between the company and the community. As a result, the firm began publishing a monthly magazine called, *The Electric Farm News.* Sent to over 90,000 customers in Arkansas Power & Light's territory, the *News* now presents a wide variety of features particularly interesting and useful to farmers, thus considerably enhancing the company's prestige in the community and adding to its standing as an organization devoted to public service.

STILL others, designed for a more general readership, have attained fantastic circulations and have earned the praise and the sincere thanks of those who receive them. One of the finest house magazines in the United States today is the Pacific Gas and Electric Company's *P.G. & E. Progress.* Edited by Laurence McDonnell, a most competent company publication director, at the moment *Progress'* circulation stands at an incredible 1.2 million—a total that equals the readership of such mass-circulation periodicals as *Popular Science* and *Popular Mechanics.* Southern California Edison's *Electrical Times,* meanwhile, has long since passed the 1 million mark, while the Southern New England Telephone Company's *News* recently announced that it is now being read by over 650,000 customers.

More important than circulation, though, is the fact that these magazines have at last established a direct medium of communication between company and community. Readers are invited to submit material; company policies are ex-

plained in such fashion that the public will find itself able to understand the problems utilities must face and the aims they are attempting to accomplish; and the customer is given "something for nothing."

Geary E. Griffith, Southern New England's editorial director, perhaps best summed up the goals that "outside" company magazines have erected for themselves when he declared, awhile ago, "There are three things they are trying to do. First of all, they are trying to edge a little closer to the public by providing a good magazine at no additional charge. Secondly, they are attempting to win public favor by depicting, in popular terms, the principles and problems underlying utility operation. And last, by devoting space to such causes as the annual Red Cross drive, the Community Chest campaign, Easter seals, and so on, they are pushing toward a more active rôle in community affairs—seeking to become partners as well as servants of the people they are servicing."

ACTUALLY, though, despite the growing number of "outside" house organs, most company magazines are still being slanted to meet the needs and interests of employees. Chief among these is a need to fit, a need to belong some place in the company scheme of things. Utility companies, fully awake to the fact that to a large extent worker attitude, efficiency, and loyalty hinge on a feeling of "belonging," are trying to cultivate that feeling in every way possible. Nowhere more, however, is greater success being achieved than through the house organs they are currently publishing—truly one of a company's best tools for improved employee morale.

—HARVEY BERMAN

Natural Gas for Florida

THE decision of the Federal Power Commission to grant Houston Gas & Oil Corporation and Coastal Transmission Corporation a certificate to construct a natural gas pipeline from Texas to Florida will be particularly welcome in Jacksonville. The Jacksonville Chamber of Commerce, which has been working for years to get natural gas for the major portion of the state now served only in the northwestern section, kept close tabs on the Washington hearings attended by the group's industrial manager, Harold A. Martin.

A decision on the proposal had to be made before December 31st when options on natural gas taken by Coastal Transmission expired on that date.

Coastal Transmission will build 574 miles of pipelines to gather gas from Texas and Louisiana fields, delivering it near Baton Rouge, Louisiana, from where the Houston Texas Gas & Oil Corporation will deliver it throughout Florida as far as the Cutler power plant of the Florida Power & Light Company near Miami, with 953 miles of main pipeline and about 640 miles of laterals. Total cost of the combined pipelines would be nearly $145 million, with the Houston line representing $94 million of the amount. In addition, municipalities and other customers in Florida would spend $45 million for conversions in order to use natural gas.

AN unusual feature of the project is that the Florida Power & Light Company will take 100 million cubic feet per day and the Florida Power Corporation 50 million cubic feet at the wellhead, paying costs of transmission. This will

leave 100 million cubic feet per day for other users out of the 250 million cubic feet to be available at the start. Martin said the available supply might eventually be increased to 350 million cubic feet a day.

INTERVENERS in the Washington hearings were a group of oil jobbers, an LP-gas association, the Atlantic Coast Line and Louisville & Nashville railroads, and, surprisingly, the state of New York, whose objection was that the rate to be paid for Florida natural gas is too high and that this might work to increase prices paid in New York state and elsewhere.

Florida remains the only major area in the United States not served by natural gas. Lacking fossil fuels, it is a large market for fuel oil, kerosene, and LP-gas.

In the Washington hearings the Florida Power Corporation pointed to substantial savings as compared with fuel oil at its power plant at Ellaville in north Florida, but Florida Power & Light Company countered with the statement that while fuel savings might be considerable they would not be reflected substantially in monthly electric bills of the average small consumer.

THE Jacksonville Gas Company is one of the strong proponents, along with the electric power companies, of natural gas. Martin predicted that the number of customers presently served by the company would rise from 13,470 to 30,000 three years after natural gas is brought in. Conversion cost for Jacksonville Gas has been estimated by engineers at $5.8 million. Martin said present cost of producing manufactured gas in Jacksonville is 58½ cents per thousand cubic feet and that the cost for delivery of natural gas would be 55 cents. However, because of cost of conversion, there would not be much saving for householders, though commercial and industrial users on an interruptible basis would have much larger savings.

Martin told the Jacksonville Committee of 100 that several companies which had been considering Florida, and particularly Jacksonville, for plant location, had decided to go elsewhere because most of the state lacks natural gas.

Introduction of natural gas in peninsular Florida would have important significance, Martin said, for Florida's citrus, pulp and paper, chemical phosphate, and other mining industries.

—C. E. WRIGHT

The Automobile's Rôle in Transit

IN view of the automobile's rôle in the present nation-wide and world-wide metropolitan transportation problem, it is fitting that a grant from the Ford Foundation should have been used to finance the volume written by Wilfred Owen, entitled *"The Metropolitan Transportation Problem."* Although the book deals with its subject from the viewpoint of all who dwell in or use our cities, and marshals facts and figures of the import of which none are more aware than transit officials, the latter none the less will find the study of value, particularly for its conclusions. And to others the information it brings together will impart a clear understanding of the Sisyphean task faced by public as well as privately owned transit. While the book is not one that is often likely to be seen in the hands of bus riders or subway straphangers, it should be of interest to writers of newspaper and magazine articles, public speakers, and others concerned with the formulation and execution of urban policies.

Mr. Owen points out that metropolitan

Courtesy, The Wall Street Journal
"I'VE HEARD HE HAS A PORTFOLIO OF ONE SHARE OF AMERICAN TEL. & TEL."

transportation problems, bad though they are, seem destined to become aggravated in future years. Our big cities have grown to the point where they threaten to strangle the transportation that made them possible. Sprawling new suburbs are repeating the errors of downtown. Few urban highways meet anything resembling adequate standards. Attempts to relieve congestion often just move the critical point elsewhere. Since 1940 traffic volume on city streets has increased 69 per cent. The likelihood is that in the next twenty years automobile ownership will continue to grow more rapidly than population. Rising incomes and living standards will see to this. Yet in many cities failure to finance an adequate highway program is traceable to rural-dominated state legislatures.

THE transit industry is the biggest public carrier of passengers in the United States. Yet, Mr. Owen notes, hope of meeting urban needs through greater reliance on public transportation has dimmed as the industry's fortunes have declined due to traffic losses, rising costs, higher fares, curtailed service, and loss of customers. The effects of rush hours, off-peak days, unprofitable routes, traffic congestion, tax burdens, underpricing of fares, etc., on transit are clearly portrayed. Citing transit's financial crisis, the author finds "the trend is toward increasing financial embarrassment." Unable to adapt

to changing patterns, street railways and rapid transit are especially vulnerable.

"The transportation problem is not being solved partly because no agency of government is responsible for its solution," Mr. Owen writes. There should be a "unified approach to the planning, financing, and operation of the transportation system as a whole." The variety of public and private agencies dealing with transportation in our big cities, especially where more than one state is involved, entails cumbersome communication and intercommunication but cannot overcome the absence of a planned regional highway system. To handle today's transportation problems municipal governments are obsolete. Regional government is needed. Regional transportation authorities established to date deal with only part of the transportation problem and generally fail to cover the entire geographic area. The Port of New York Authority, for example, lacks responsibility for major highways, commuter railroads, parking, and transit. Such authorities may perpetuate the piecemeal approach.

SPACE limits prevent citing here all of Mr. Owen's suggestions. Transportation demand must be attacked, he says, through land-use planning and zoning, establishing the pattern of urban development and the location, size, and employment of urban structures. A complete system of expressways and redesign of major streets is needed. "Only a total network of controlled access expressways and parking facilities can provide a skeleton that will support the giant metropolis of the future. . . . Urban areas should be granted a fair share of state-collected highway user revenues. . . . More scientific pricing of transportation services is called for. . . . Pooling of transportation revenues" holds promise.

The problem being only partly one of transportation, the author discusses two approaches to leveling transportation peaks. One is community-wide staggering of working, shopping, and school hours. This might help the city, the worker, and the whole economy. The peak, in addition to being spread over more time, also should be spread over more space. This calls for dispersal of population and economic activity, the preservation of open spaces and the planning of land-use densities and arrangements.

BOTH population limits and geographical limits will have to be imposed on urban development if the metropolis is to avoid strangling its own prosperity. Urban growth should be directed into new towns and existing smaller towns; but there is also the need to redevelop existing urban centers to assure "a generous balancing of developed land with open space, and for planning new suburban growth to assure the preservation of surrounding low-density land." Urban redevelopment and planning, according to Mr. Owen, can help overcome peak-hour congestion by enabling people to live and work in the same areas, either close-in or on the periphery. "Approaching the demand side of the problem offers a real hope of halting the endless race between traffic growth and the capacity of the transportation system."

An effective solution to the urban transportation problem should be comprehensive functionally, geographically, and from a planning standpoint.

Mr. Owen's recommendations seem to make good sense. One wonders, however, whether "we, the people" shall have the sense to carry them out adequately. Getting folks to move closer to their work or moving their work closer to them often is easier said than done. The myriad

strands that form the economic warp and woof of our big cities form a mighty tangled web for the planners to rearrange. It might be done more readily in the U. S. S. R.; but then Russia is not troubled by swarms of capitalists' automobiles. None the less, Mr. Owen's book deserves the serious attention of all concerned with the problem in any of its many aspects.

—HERBERT BRATTER

THE METROPOLITAN TRANSPORTATION PROBLEM. By Wilfred Owen. The Brookings Institution, Washington, D. C. 1956. 301 pp. Price, $4.50.

Regulation as an Aid to Pipeline Construction

THE future of the pipeline industry and the part in its growth that the federal government will inevitably play was the subject of a recent address by Federal Power Commissioner William R. Connole. The address was delivered before the Pipe Line Contractors Association this month at Boca Raton, Florida.

Connole believes there is a tremendous area for mutual advantage in pipeline-government relations. He noted at the outset that the pipeline supplies the answer to two basic problems affecting the economy of the United States: how best to use our natural resources, and how most efficiently to distribute the products of American inventive, mechanical, and productive genius. Since energy is fundamental to the use of our natural resources, the pipeline has a key rôle to play since it can substantially aid in the utilization of energy resources and efficiently distribute the industrial product.

Reviewing the accomplishments of the pipeline construction industry, Connole noted that there are now 142,000 miles of natural gas pipeline in the country, 64,500 of which have been built since World War II. The petroleum pipelines now carry 17 per cent of ton miles of petroleum traffic moving in this country, while in 1929 they were responsible for less than one-half that proportion. With respect to the future, he said, the coal slurry pipeline installed in eastern Ohio to serve the generating station of Cleveland Electric Illuminating Company, furnishes a dramatic example of the uses for which pipelines can be employed. The 100-mile coal slurry pipeline has already been laid, the pumping stations completed and tested, and water successfully pumped through the line. All indications are that coal will soon be moving through this line. Meanwhile, in England, research is being pushed into the subject of hydraulic transportation of coal. Connole reported that pilot plants have been installed in two collieries pumping anthracite several hundred feet from the lower levels of the mine to the surface.

ALL of these developments, Connole said, justify confidence in the ability of the industry to solve its technical problems. But of equal importance is the meaning all this growth will have for the pipeline industry and the relationship with the people of the nation which the industry will ultimately serve. In this connection, Connole examined some of the problems involved in the regulation of petroleum pipelines by the Interstate Commerce Commission and natural gas pipelines by the Federal Power Commission.

So far as petroleum pipelines are concerned, Connole continued, the problem provoking the warmest debates arises in connection with proposals to divorce the pipelines and the integrated major producers. The railroad industry, he noted, has urged that oil companies be required to divorce transportation operations from production, processing, and marketing. It

is urged that the so-called "commodity clause" be applied to the petroleum industry in order to place it on a basis comparable with the railroad industry, which is prohibited by law from engaging in the transportation of most goods of which it is the owner. But despite popular clamor for reform, efforts to separate oil transportation from other functions have so far been unsuccessful.

The purpose of the regulatory scheme in this area, as spelled out by the Hepburn Act of 1906 and the Transportation Act of 1920, is to insure as much as possible that pipelines would be available to the big producer as well as to the little one; that the transportation service would be available at reasonable rates and with reasonable tenders to the line.

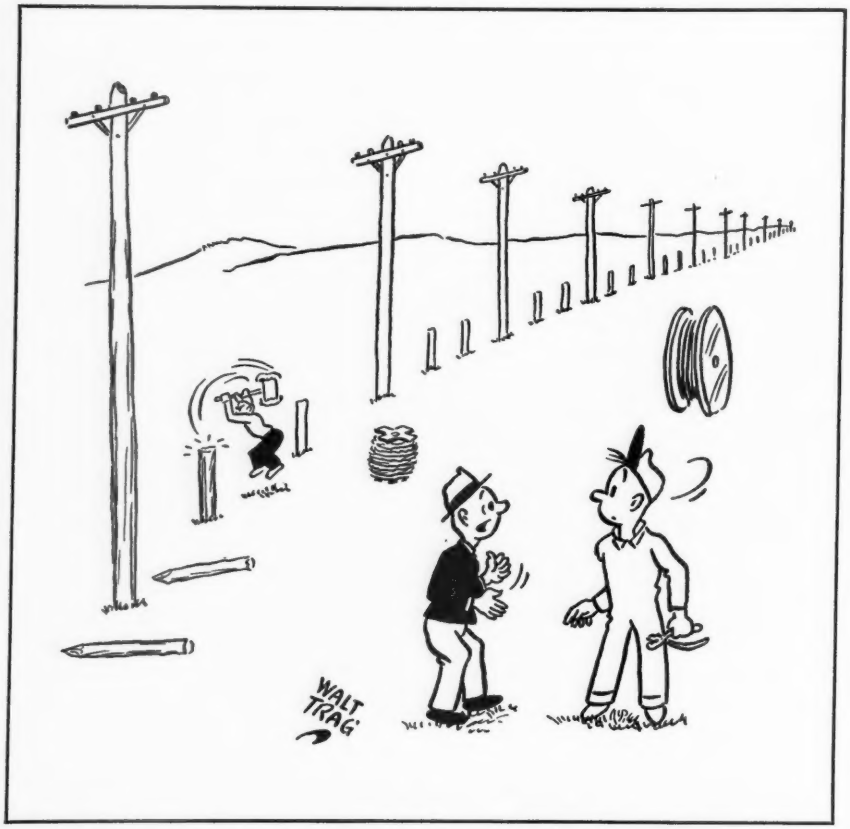
THE authority to regulate the oil pipelines was delegated to the Interstate Commerce Commission, essentially an agency for the regulation of transportation. Effective regulation by this commission required a definition of pipelines as "carriers," at least in the legal sense if not in fact. On this point, Connole stated:

> I am seriously troubled whether this status is best suited to the most effective regulation of petroleum pipelines. Common carrier status was not found to be an essential legal prerequisite to effective regulation of natural gas pipelines. In fact, there are but few natural gas pipelines rendering an exclusively transportation service. A more useful standard was adopted in the Natural Gas Act which applied the provisions of that act to the transportation of natural gas in interstate commerce but concurrently and more importantly applied those provisions to interstate wholesales. The extended wording is "sales in interstate commerce of natural gas for resale for ultimate public consumption."

Regulation of the oil pipelines has been chiefly rate control, uniformity in accounting rules and standards, and establishment of minimum tenders of petroleum shipments. Connole sees two weaknesses in the regulation of these pipelines. One stems from the legal fiction that the pipeline is a common carrier. This results, he said, in a quantity of intricate and strained reasoning to bring some lines under effective regulation. Connole suggests that a better method would be to subject the pipelines to some form of public direction which will more directly attack the industry problems, and that this could well be done as part of a background of the entire energy distribution function of the country rather than in conjunction with transportation structure only.

A SECOND defect derives from the absence of any requirement that lines be proved necessary to the public convenience and necessity before they are built. "How can any effective regulation of carriers be carried out," he asked, "if there is no assurance that the line is necessary in the public interest? Yet, at present, such a line is allowed a fair return on its property devoted to the public service as is any other utility which has been required to prove its need in the public interest. Undoubtedly, the impossibility of preventing the creation and virtual perpetuation of an uneconomic line is a real defect in present regulation. The difficulty is especially keen when the problem becomes that of shortage of transportation space and consequent maximum price levels rather than minimum rates."

The development of the natural gas pipeline industry is in striking contrast to the petroleum pipeline industry, Connole continued. The major difference lies in the fact that the natural gas pipeline web, unlike oil pipelines, was developed and



"HE CLAIMS THE RIGHT OF WAY IS ON HIS PROPERTY LINE"

built essentially by interests not dealing with the ultimate consumer at all; especially since 1944 and the Hope Natural Gas Company case, gas pipeline companies have not even owned significant amounts of production. In other words, the natural gas pipeline industry is an industry in itself while the petroleum pipeline industry is but part of a large industry.

Although the present scheme of natural gas pipeline regulation by the Federal Power Commission is restricted to economic considerations only, Connole said one factor has become of increasing importance lately. This is the matter of safety standards for construction and operating natural gas pipelines. There is now a question whether the federal government, and particularly the FPC, should exercise authority to prescribe safety standards.

CONNOLE pointed out that the commission does not have any direct jurisdiction over the safety involved in the construction and operation of natural gas pipelines subject to its jurisdiction. Legislation proposing such jurisdiction has been introduced in the House of Representatives for several years. But the legislation was not pushed because there was no

modern safety code for natural gas transmission piping systems. Work on such a code was begun in 1951 and in 1955 the American Society of Mechanical Engineers published § 8 of the American Standard Code for Pressure Piping covering gas transmission and distribution piping systems. Said Connole:

> . . . The 1955 code finally provides an effective safety guide for gas transmission pipeline construction and operation. It is my understanding that this code is under continuing study by members of the committee active in its adoption and that it will continue to be made as effective as possible consistently with current discoveries in the safe construction of such facilities.

Connole urged the Contractors Association to accept the work of the code makers, in keeping with its well-deserved reputation for safe construction and practices. But public safety, he said, is but one of the responsibilities implied by the indicated future structure of the pipeline industry. If contractors, promoters, and owners recognize the responsibilities created by the public trust they have assumed, Connole said the probability of restrictive or punitive regulation will be greatly reduced.

He added:

> The need of co-operation with the government in other fields as well should be freely admitted and understood by the pipeline industry. The present patchwork of regulation which vests control over this vital economic area in diverse agencies, such as the Interstate Commerce Commission, Federal Power Commission, Department of the Interior, and others could well be reappraised. Perhaps one agency should be given jurisdiction over all pipelines whether they be petroleum, natural gas, water, bulk commodities or carriers of other products to the end that unnecessary duplication of regulation cease. In that way business will be encouraged, not hampered, by the government's efforts. In that fashion, an integrated scheme of distribution for the energy sources of our country can be built. In that fashion, uniform treatment between types of carriers, between types of energy, and between owners of the different carriers of both can be obtained.

CONNOLE foresees a glowing future for pipelining, based on the achievements of this industry to date. He expects to see within a generation water pipelines alleviating the chronic droughts of the western states, slurry lines transporting coal, ore, and other bulk commodities hundreds of miles, petroleum and natural gas pipelines bringing the vast mineral riches of the Middle East and other still untapped energy sources to European population centers and opening up whole new continents with the magic of useful cheap energy.

He warned, however, that realistic men in government and industry will do well to recognize the pitfalls lying in the way of so vast a development as this. "The anticipation and prevention of ills which could well arise to plague the future of the development is much easier and more effective than the frantic and frequently punitive efforts to cure these defects once they are established," he said.

Whether the integrated regulation of energy distribution Connole suggests is the answer or whether some other means are preferable is a question that cannot now be answered. For his own part, however, Connole expressed confidence that the economy and the people in it are mature enough, sensible enough, and have sufficiently profited by their predecessors'

mistakes, that they will not let this opportunity go. He noted, in conclusion, that enlightened regulation of business that is affected with the public interest has always been one of America's powerful secret weapons in the fight against Socialism and totalitarianism. Properly used it will demonstrate once again that a free America, using the means especially adapted to its economic form of free enterprise, provides the best device yet developed for increasing individual freedom, for enhancing national prosperity, and extending social equity.

Transit Survey Favors Buses

A FIVE-YEAR study of transit conditions in the District of Columbia indicates that buses take up less street space and are more efficient than streetcars. The study was undertaken by the Bureau of Public Roads. William P. Walker, bureau engineer, reported its conclusions to the 36th annual meeting of the Highway Research Board, held in Washington, D. C., early this month.

The study shows that buses occupy 3.3 times as much space on city streets as private cars. Streetcars take 7.6 times as much room. Based on triple standards of speed, space, and passengers, buses were rated 3.7 per cent as efficient as autos, and streetcars 1.8 per cent as efficient in downtown Washington.

The survey indicated that more people could use mass transit without clogging the streets. Teams of counters picked out by the bureau never found bus or streetcar routes thoroughly utilized by mass transit, although the lines studied were the most heavily traveled.

IN areas between the central city and outlying districts the study showed buses were 4.6 times as efficient as cars. In suburban areas they were 2.6 times as efficient. Comparative figures on streetcars in these two general areas were unavailable because the tracks are laid only in central Washington.

Walker stressed that the findings were only "exploratory" and that the movements chartered by the bureau researchers were subject to constant change.

From the President's Budget Message

"IN *returning the Harris-Fulbright natural gas bill to the 84th Congress without my approval, I stated that legislation conforming to the basic objectives of that bill was needed. I am still of that opinion. It is essential that consumers of natural gas be protected. We must endeavor to make sure that there will be continued exploration and development of adequate field supplies of gas, and that producers' sales prices are arrived at fairly and competitively. In this way, and with authority vested in the FPC to regulate interstate pipelines as to the price at which gas may be charged as an item of cost in fixing their rates, the price to the public will be fair. Legislation freeing gas producers from public utility-type regulation is essential if the incentives to find and develop new supplies of gas are to be preserved and sales of gas to interstate markets are not to be discouraged to the detriment of both consumers and producers, as well as the national interest.*"

The March of Events

States Drop Power Pleas

MASSACHUSETTS and New Hampshire recently dropped appeals for a share of St. Lawrence seaway electric power. David M. Brackman, chairman of the Massachusetts Department of Public Utilities, said he had notified the Federal Power Commission of the state's decision. He said it was based on an engineering report that showed that the cost of St. Lawrence power would be equal to or greater than that generated in Massachusetts.

The New Hampshire Public Utilities Commission said that on the basis of its own investigation and that of a Boston engineering consultant firm, it had concluded that St. Lawrence power would cost practically as much as power produced in New Hampshire.

Both states had filed appeals to the FPC after the New York State Power Authority notified them of its own decision that it would be uneconomical to send St. Lawrence power more than 150 miles.

Arkansas

Industrial Gas Rate Case

THE state supreme court was scheduled to take under consideration on January 28th an appeal from a state public service commission order granting to the Arkansas Louisiana Gas Company a $4 million annual increase in rates to large industrial users. An early decision was not expected.

The commission granted the higher rates November 3, 1955. The increased charge had been collected under a bond guaranteeing possible refunds from April 15, 1955, and the bonded collections have been continued, pending disposition of the appeal.

The appeal was filed by eight industries and the federal government, the latter because of its gas purchases for the Pine Bluff Arsenal and the Naval Ammunition Depot at Shumaker, near Camden.

Minnesota

New Utility Laws Asked

COMPREHENSIVE revision of state and local controls over rates and taxes on natural gas and electric power transmission companies was proposed in a resolution adopted early this month by the Bloomington village council. The

Minneapolis suburb recommended that the state legislature make these major changes in such laws:

Include natural gas and electric transmission companies under the "same controls" now exercised by the state over telephone companies; require the state railroad and warehouse commission to establish reasonable and uniform franchise taxes to be paid to municipalities for the use of streets, alleys, or other public grounds; replace the state railroad and warehouse commission with a new state commerce commission. Members of the proposed new agency would be named by the governor rather than elected, and the commission would regulate all public utilities in the state.

Mississippi

Gas Rates Boosted

THE Willmut Gas & Oil Company, Hattiesburg, recently notified the state public service commission it would raise its natural gas rates 17 per cent, effective January 10th. The commission, which has formally rejected rate increase applications from the firm, accepted a $225,000 bond under which the rates would be put into effect for a 90-day period.

If the commission finally determines the higher rates are not justified, the firm will have to return the excess charges to its customers.

Willmut serves Hattiesburg, Petal, Mount Olive, Collins, Magee, Mendenhall, D'Lo, Pearl City, and rural areas between those communities.

Nebraska

Highway Bill Introduced

A BILL introduced in the state legislature this month would provide that public or private utilities be paid for moving or altering their facilities in connection with federal-aid highway projects. Backed by the League of Nebraska Municipalities, the bill was introduced by Senators Aufenkamp of Julian and Williams of Broken Bow.

REA Pact Extension Asked

CUSTER PUBLIC POWER DISTRICT this month wired REA Administrator David A. Hamil asking that he require a 10-year extension of the present contract of Nebraska REA's with the Nebraska Public Power System.

The telegram sent Hamil and signed by Custer attorney Ivan Evans, said that Custer and 26 other Nebraska rurals now have a cost-of-service wholesale contract with NPPS that runs until 1959 and thereafter unless canceled. Cancellation, he noted, requires consent of the REA Administrator.

The attorney said a proposed new contract, agreed upon by the other 26 Nebraska rurals, would put into effect substantially higher wholesale power costs. He said Custer has attempted "to serve electrically all the rural population in sparsely settled territory and our loan feasibility was based on present power costs. Our district cannot absorb increased wholesale power cost contemplated without effecting corresponding raises in rates to rural customers."

The telegram from Evans said departure from the pattern developed "during many years of contract commitment might result in costly litigation tending to break down the entire public power setup presently existing in Nebraska."

Five Public Power Bills Introduced

SENATOR Terry Carpenter of Scottsbluff recently introduced in the state legislature five bills affecting public power districts generally. But he is reported to have made it clear that they were aimed specifically at Consumers Public Power District. Main intent of the bills appeared to be to make it easier for towns to take over electric distribution systems from Consumers. Consumers now sells electricity at retail in many towns. Present statutes provide that the district will offer the systems to the towns at no cost in 1972. After that date Consumers can continue to generate and transmit power.

Carpenter explained that he favors Consumers remaining in the generation and transmission business "forever." But he said he wants the district to get out of the distribution end and turn that over to municipalities as soon as possible.

New York

Governor Advocates Wider Utility Laws

GOVERNOR Harriman's annual message to the state legislature early this month touched on a number of topics directly affecting the business and financial community. They ranged from telephone and rail rates to the regulation of pension funds.

Among other things, the governor called for legislation to permit the state public service commission to regulate telephone and railroad companies "on the same basis as other utilities," where capital actually invested is used as the rate base. The court of appeals last year ruled the commission is required to use reproduction cost as the yardstick and Governor Harriman requested legislation that would head off "unwarranted rate increases at the expense of the consumers and businesses."

The governor also asked for legislation to "broaden and clarify" the jurisdiction of the State Power Authority and to liberalize the list of securities in which insurance companies are permitted to invest. He said the Power Authority is making "good progress" on the St. Lawrence project and forecast it would get into operation in the fall of 1958, a year ahead of the original schedule.

Noting that private industry in the state "had been quick" to seize the potential of the atom, he called for creation of a state atomic energy act. "The expanding use of radioactive materials," the governor said, "is introducing new occupational and public health risks which the state must . . . prepare to face."

Oregon

Court Backs Tax on PUD

THE state supreme court, in an opinion handed down January 9th, ruled that taxes assessed against the northern Wasco County Peoples Utility District by the state tax commission for the year 1950 and through 1953 were lawfully assessed.

The high court added that the statutes subjecting property of the utility district to taxation are not arbitrary or unreasonable and are free from constitutional infirmities.

The opinion, written by Justice George Rossman, affirmed in part and reversed in

part a decree of Judge M. W. Wilkinson of the Wasco county circuit court.

The district sought a declaratory decree that it was not subject to taxation. The circuit court held that the 1950 levy was void, but sustained the levies for other years. The supreme court held that as to the 1950 levy an assessment made under authority of a void statute could be and was validated by later curative legislation when it appeared that the legislation could have originally authorized the assessment under a proper statute. To this extent the decree of the trial court was reversed.

Pennsylvania

Rate Increase Delayed

A GAS rate increase for some 242,000 customers in western Pennsylvania has been postponed, at least until March 2nd. The state public utility commission in Harrisburg recently turned down a request by the Peoples Natural Gas Company to put the proposed new rates into effect immediately. The commission set the March date as the new deadline for the company's $2,725,000 raise in rates.

The action came as the city of Pittsburgh was fighting the increase at a hearing before a commission examiner. Also opposing the new rate plan is the city of Johnstown.

The gas company has held that its income is inadequate and argued that commission suspensions of its rate increase have cost the firm seven months' additional revenue.

The higher rates were first proposed in June of last year, but were delayed by a 6-month postponement.

Tennessee

Cut in Electric Rates Asked

WASHINGTON county court early this month called for a 20 per cent reduction in electric rates by the Johnson City Power Board. The court, voting unanimously on a resolution by Magistrate W. B. Carter, said the reduction should be especially applied to the domestic use of power. The court voted to send copies of the resolution to the Johnson City Power Board and to the Tennessee Valley Authority in Knoxville.

The court voted to ask TVA officials to use their influence in bringing about the rate reduction. In August, TVA officials said the Johnson City Power Board could safely reduce rates by 20 per cent but in December the power board voted down a 10 per cent reduction.

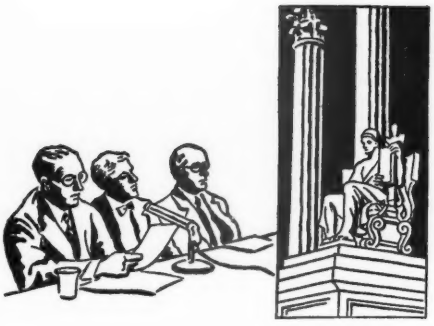
Wisconsin

Commission to Investigate Rates

THE state public service commission recently ordered an investigation and public hearing on commercial electric rates charged by Northern States Power Company. The utility serves consumers in west-central Wisconsin.

The reduction filed by the company on December 31st was suspended by the commission pending its own investigation and the public hearing.

By voluntary action the company on December 31st had filed a rate schedule with the commission providing for total annual rate reductions to consumers of $382,000.



Progress of Regulation

Trends and Topics

Property Acquired for Future Use

COURTS and commissions are sometimes called upon to decide whether property acquired for future use should be included in the rate base. The Pennsylvania commission, in its recent decision relating to rates of the Bell Telephone Company of Pennsylvania, excluded certain property as not used and useful in the public service (Pennsylvania Pub. Utility Commission *v.* Bell Teleph. Co. of Pennsylvania, which will appear in 16 PUR3d 207, and is reviewed generally in this issue of PUBLIC UTILITIES FORTNIGHTLY at page 206).

The property in dispute represented a portion of an underwater river conduit, a conduit on a bridge, parcels of land with buildings thereon, and parcels of land located in downtown Philadelphia. The latter had been acquired in 1930 and while then intended to be used as the site for a new headquarters building, the only use to which it had been put to date was a parking lot. The company expressed its intention to start construction of the building in 1958. The commission said that it was recognized, of course, that sound business practice calls for future planning. Ratepayers, however, should not be burdened with providing a return on property, none of which was in service on the valuation date and the use of which was "still in contemplation."

Earlier Pennsylvania Decisions

This ruling is in harmony with other Pennsylvania decisions. In 1949 the commission made no allowance for such property where information was lacking as to the extent to which the new property would affect plant, revenues, and expenses (81 PUR NS 316). The commission in a decision relating to a water company decided that plant held for future use should be excluded (6 PUR3d 377). The commission's views were expressed in the Metropolitan Edison Company case when it decided that land being held in connection with a proposed power plant and substation should be excluded. At the time of the

rate proceeding this property was in nowise used and useful for the purpose of furnishing electric service to the public, and the commission said there was no evidence of its imminent use therefor (13 PUR3d 29).

The Pennsylvania superior court held that coal properties were properly excluded from an electric company's rate base where they had not been developed and were not in use and there was no evidence that they would be used in the near future (96 PUR NS 161).

Principles Controlling Inclusion or Exclusion

Several decisions on this question contain references to principles stated by the Vermont supreme court when it decided that property held for future use should not be included in the rate base of a telephone company as a matter of law. The court was of the opinion that whether it should be included is a question of fact to be determined by the commission after considering whether its purchase was made in pursuance of honest and reasonable business judgment in carrying out some definite plan and the time within which it might reasonably be expected that the property would be used (79 PUR NS 508). The state commission had excluded such property in determining the average net investment (75 PUR NS 45).

The Vermont commission, in a later case, said that companies should be farsighted as to the needs of future service where property for future use may be acquired at a saving in cost, but it is inequitable and unfair to look to the public exclusively to underwrite advance purchases. The accepted test was said to be whether the time for using the property in question is so near that it may properly be held to have the quality of working capital (83 PUR NS 414).

Property held for future use in 1955, according to the commission, did not have the character of working capital in 1949 so as to justify its inclusion. Moreover, the commission did not think that property acquired more than a decade ago and not scheduled for immediate future use should be included. This principle was later followed when the commission ruled that telephone property should be excluded if the expected time for its use is too remote to give it the character of working capital (1 PUR3d 33). Likewise, the Maine commission ruled that property which will presently be a part of the operating plant should be included in the rate base, but property for which no early public use is contemplated should be excluded (75 PUR NS 90).

As stated by the Illinois commission, property held by a telephone company for future use should be included in the rate base where no question is raised as to the propriety of the acquisition of the property, since the company should not be penalized for reasonable advance outlays to be used in reasonably foreseeable expansion programs; for example, the purchase of land adjoining its own before it is put to other use, to be used in reasonably foreseeable expansion, or in constructing underground conduit under new highways (7 PUR3d 493).

The Virginia supreme court of appeals, in reviewing an order relating

to the Chesapeake & Potomac Telephone Company (89 PUR NS 33), held that it was proper for the commission to include money invested in telephone plant under construction and the value of real property which would be used in the immediate future where the commission was employing the net original cost investment theory of valuation.

Property held for future telephone use and for which there is a definite plan for use, according to the Washington commission, may be included in the rate base, since presumably it has been determined that it is more economical to hold the item idle than to sell it and buy another when needed, that there is no market in which to sell, or that a replacement later will not be available (100 PUR NS 309).

Telephone properties held for immediate future use, according to the West Virginia commission, should be included in the rate base where the account does not bear interest and any income derived therefrom is carried into revenue accounts (82 PUR NS 498). Property held for future telephone use was included by the Kentucky commission where no interest was capitalized while the property was carried in this account (83 PUR NS 129).

Facts Justifying Inclusion or Exclusion

Vacant lots held for future use were excluded by the Alabama commission where the property was acquired in anticipation of possible future needs rather than for imminent use (92 PUR NS 97). The commission did not think it fair "to burden present subscribers with the cost associated with property which will only benefit subscribers at some future time." Real estate acquired for use from eight to eleven years in the future was excluded by the same commission on the ground that it was not being held for imminent use and it was unlikely that the company could project definite plans for its use (96 PUR NS 1). The commission said that a decision of the California commission (75 PUR NS 379) including property if it is to be used within two years, and otherwise excluding it, appeared to be sound, and supported by the authorities. (See later ruling on two or three years in next paragraph.) The Alabama commission, in a later decision, included such property upon a showing that the company had definite plans for its immediate use during the current year (4 PUR3d 195).

The California commission approved the exclusion of some land owned by a water company and the inclusion of land found to be reasonably necessary for future use (98 PUR NS 172). Property acquired for future use by a telephone company was included in the rate base where it would be used within three years, rather than two years. The commission said that the utility should not be penalized if it exercised reasonable judgment in acquiring property, but that an unreasonable burden should not be imposed upon the ratepayer (5 PUR3d 396).

The Colorado commission included property of a telephone company where it appeared that the company was holding it for use in connection with the installation of two new central offices in the near future and that the company

had shown proper foresight in purchasing the property prior to a tremendous increase in real estate values in recent years (94 PUR NS 33). The same commission later, in a rate case, included "Property Held for Future Telephone Use" (1 PUR3d 129).

In the District of Columbia it was ruled that telephone property held for future use should be included where the company had under consideration definite plans for its imminent use (99 PUR NS 314). The Georgia commission included a small amount of property held for future use where no interest was charged or capitalized on this property (91 PUR NS 97). The commission distinguished this from excluded plant under construction where interest was capitalized.

The Maryland commission included such property (93 PUR NS 215), in accordance with views expressed in an analysis of the problem in an earlier case involving the Chesapeake & Potomac Telephone Company in 1947 (70 PUR NS 97). There several rulings by other regulatory authorities were reviewed and the commission included property held for future use and also plant under construction.

The New York commission made no adjustment for unused conduits of an electric company notwithstanding the fact that the amount involved appeared large percentagewise. Other factors existed which offset the large percentage. These included (1) the necessity of providing some spare capacity over and above that allowed for proper operations, (2) the existence of certain municipal regulations as to the period within which streets might be torn up, which justified installation of some extra capacity for future growth, and (3) the fact that the unused ducts were installed during a period of low construction cost which would minimize the amount that might be questioned for rate-making purposes (96 PUR NS 194).

The Florida commission excluded property of a telephone company held for future use where no plan was disclosed for its immediate use (80 PUR NS 161).

In Massachusetts real estate held by a telephone company was excluded where no evidence was offered as to the nature of the property or that it would ever be devoted to public service (2 PUR3d 464). There was no evidence of a definite plan for such use as required by the Uniform System of Accounts. It was impossible to determine what portion of the property was to be used for expansion and what part for replacement.

The Montana commission said that real estate should not be included since it was neither used nor usable in the public service although it might have been good business judgment for the company to purchase the property (87 PUR NS 129). Parcels of land owned by a telephone company which had no definite plans for their future use in 1949 were excluded by the New Jersey commission (78 PUR NS 97). The property had been acquired between the years 1930 and 1946. The amount in the account for property held for future use by a telephone company was excluded by the Tennessee commission (84 PUR NS 65). It did "not represent the value of properties used and useful in rendition of . . . service."

CORRECTION

The statement, in PUBLIC UTILITIES FORTNIGHTLY, January 3, 1957, at page 58, that the Idaho commission "disallowed" part of the pension costs should be corrected so as to state that the commission "criticized" such costs. The commission denied a rate increase on the basis of figures including such costs, without going so far as to make a specific disallowance (6 PUR3d 428). The court, upholding the commission, in discussing alleged errors said that certain items "could be more than offset" by policy changes, citing the pension system as an illustration (9 PUR3d 290).

Review of Current Cases

"Judgment Allowance" over Cost of Capital Ruled Improper

ON second appeal by the city of Pittsburgh in The Manufacturers Light & Heat Company rate proceeding, a Pennsylvania superior court ruled again on the questions of rate of return and rate structure. The Pennsylvania commission's original order (5 PUR3d 346) allowed a gas rate increase sufficient to provide a rate of return of 6½ per cent, on a fair value rate base. The 6½ per cent, however, included a .19 per cent judgment allowance above capital cost, to cover possible adverse fluctuations or uncertainties in the money market. This allowance, on the first appeal (8 PUR3d 205), was held to be improper since the risks associated with future market conditions had already been considered in the determination of cost of capital. The court returned the case to the commission for further, more particular findings as to rate of return.

The specific rate increases authorized by the commission in the original order involved different percentage increases applied to block rates. Since no ascertainable consistency could be found in the record for the changes from the old to the new rates, the court required further findings on this issue also.

After taking additional evidence and making further findings, the commission reaffirmed its original position on the two issues. From this decision the instant appeal was taken.

Allowance for Market Uncertainties

As Manufacturers secured all its capital from Columbia Gas System, a parent corporation, the commission properly adopted the cost of capital to the parent, 6.18-6.31 per cent, as the cost to the subsidiary. But in the remand decision, the commission again added .19 per cent to cost of capital as a "judgment allowance" for possible adverse fluctuations in the money market. The evidence offered in support of this arbitrary allowance was of only a general nature. Money market uncertainties, the court observed, relate solely to cost of capital, and having been once considered and made the subject of an allowance in cost of capital, they could not be made the basis of another allowance for good measure.

Evidence on Cost of Capital Controls

Rate of return is not always synonymous with cost of capital; it may be above, below, or equal to, cost of capital. But a finding as to allowable rate of return must in any event be supported by substantial evidence. If the evidence presented relates only to cost of capital, then the rate of return is limited to cost of capital. But if other pertinent evidence is presented going beyond cost of capital, the rate of return may differ from such cost.

Many items such as financial structure, credit standing, dividends, interest, attendant risks, regulatory lag, and wasting assets are considered in determining cost of capital. In weighing these factors the commission exercises its judgment. But that judgment must be based upon the facts as they have been presented. If there is no evidentiary basis in the record, a factor may not be considered as a matter of policy or for desired flexibility in administrative procedure.

Attrition of Earnings

In the remand proceedings the company sought to support the allowance over the cost of capital on the grounds of attrition of earnings. The court sustained the commission's rejection of this argument. Attrition occurs because of regulatory lag and increasing operating costs. These factors, it was noted, were reflected in the determination of the cost of capital and the allowance for operating expenses.

The court expressed the opinion that if this allowance above the cost of capital were approved, rationalized as one made upon the exercise of the commission's good judgment, it would follow that by gradual increases in the amount of the allowance the entire rate of return could ultimately be based on "judgment" alone. The court said there was no more evidence to support this allowance on the second appeal than on the first. As to this issue, therefore, the commission's order was set aside.

Evidence on Rate Structure

On the question of possible unreasonable discrimination in the rate structure, the court ruled that Manufacturers had met the burden of establishing that the changes from the old to the new rates were fair. The city of Pittsburgh contended that the question could not be resolved unless estimates of service and cost of service were produced for each class of consumers.

The law, however, prohibits only unreasonable discrimination. A mere difference in rates between classes of customers, said the court, does not establish unreasonable discrimination. While the new rates contained some inequities, the evidence did not establish unreasonable discrimination. *City of Pittsburgh v. Pennsylvania Pub. Utility Commission, 126 A2d 777.*

Commission Considers Trended Costs in Fixing Rate Base And Cost of Capital in Fixing Return Allowance

THE Pennsylvania commission allowed only a part of a telephone company's proposed revision in intrastate rates. The commission cut down the company's claims for rate base, operating expenses, and return allowance, and it made adjust-

ments for numerous items entering into the determination as to reasonableness of rates.

Measures of Value

Trended original cost of buildings, resulting from the application of index numbers to original cost trending factors, was considered an acceptable substitute for reproduction cost. The commission discussed the process of "linking" so as to preserve the continuity of index numbers for a given type of central office.

The commission concluded that in determining the rate base it should give consideration, among other things, to original cost and to reproduction cost (or trended original cost), the latter at the fair average prices of materials, property, and labor.

Rate Base Elements

Plant under construction was excluded from the rate base because interest during construction was capitalized. Such interest was also excluded from revenues.

Property held for future use was excluded on the ground that its use was still in contemplation and no utility use had been made of the property.

Notwithstanding objections by those opposing the rate increase, the commission made no adjustment in the cost of plant purchased from the affiliated Western Electric Company. The commission noted that, apart from the convenience which this company's services provided to the telephone company, there was ample proof in the record that the prices charged were not in excess of the reasonable cost of furnishing them plus a reasonable profit.

Accrued Depreciation

A book depreciation reserve which was the end result of accruals over the years based upon changes in the experience on property lives, in the opinion of the commission, had no reasonable relation to current estimates of property lives forming the basis for current annual depreciation claims. Accordingly, no consideration was given to an amount based upon such book depreciation reserve in determining the rate base.

What was called "total existing depreciation," submitted by the telephone company as the existing physical depreciation applicable to telephone plant, other than land, plus the factors of net salvage, obsolescence, inadequacy, and public requirements, was rejected as a measure of accrued depreciation. The company had contended that the various parts of plant were subject to physical deterioration only until the moment at which the company made the decision to schedule that plant for retirement, with the result that on a substantial amount of plant at the valuation date the company contended that the physical was the only element of depreciation that had come into play.

The commission decided that the depreciation reserve requirement should be used to measure accrued depreciation. The company was able to forecast with some degree of accuracy the remaining life expectancy of the various elements of its plant. This remaining life expectancy related to average service life and became a measure of the portion of the service life yet to be realized. The difference between that portion and the total average life became a measure of the depreciation reserve requirement, or accrued depreciation.

Separation between Intrastate and Interstate

In view of the fact that the commission had jurisdiction over intrastate serv-

ice only, it was necessary to separate property, revenues, and expenses between intrastate service and all other service furnished by the company. The fundamental basis for separations, said the commission, was the proportionate use of the company's telephone plant for each of the services. This was in accordance with the "Separations Manual." The procedures are on a station-to-station basis and applicable either to property costs, revenues, expenses, and reserves as recorded on the books, or to estimated figures such as reproduction cost.

It was said to be fundamental in dealing with the allocation of plant that the commission allocate the plant and the dollars representing it according to proportionate use. The commission was unable to find that the total telephone system average investment per message-mile-minute could be used as a basis for separation where the average investment was not necessarily the same as the nation-wide average and where the average use between intrastate and interstate operations was not necessarily the same as the nation-wide average.

Return in Relation to Capital Cost

The commission discussed extensively the evidence submitted by the various parties as to cost of capital, in reaching a conclusion as to a fair return. A reasonable range in weighting ratios and money costs as between the various kinds of securities, said the commission, should be applied and neither capital structure nor money costs can be rigidly fixed.

After considering cost of capital, the commission allowed a rate of return of 5.90 per cent. Claims for cost of capital had ranged between 3.22 per cent-3.41 per cent for debt capital and 7.15 per cent-7.90 per cent for equity capital.

Operating Expenses

The commission gave a full year's effect to the impact of changes in wage rates and related pension expense. Charitable contributions were disallowed as an operating expense. A nonrecurring item for repairs to station equipment was excluded. Storm damage expense was amortized over a period of three years instead of five or more years, as in the past, because of the frequency of severe storms in recent years. Allowance was made for increased payments to the American Telephone and Telegraph Company under a contract for general services and licenses.

The commission discussed at length various adjustments in the claim for income tax as a deduction by reason of its treatment of various operating expenses. The commission said it would be inconsistent and unfair not to permit charitable contributions to be borne by customers and yet let them benefit by the taxable income deduction occasioned by these same contributions. Consequently, the amount of charitable contributions excluded from operating expense was added back to taxable income, together with such miscellaneous income charges as membership fees and dues, for the purpose of determining income tax deductions. *Pennsylvania Pub. Utility Commission et al. v. Bell Teleph. Co. of Pennsylvania. Complaint Docket Nos. 16556 et al. December 11, 1956.*

"Late" Filing of Protest Held Timely

THE filing of a protest against the grant of a construction permit by the Federal Communications Commission without a hearing was timely filed, under § 309

(c) of the Communications Act of 1939, a federal court of appeals ruled, even though the papers were actually deposited twenty or thirty minutes after closing time on the final day allowed by law for filing. It appeared that the protestant's attorney was in the filing office shortly before closing time but, because of time consumed in assembling the papers for an orderly filing, did not actually deposit them until after closing time.

The intent of Congress in allowing an aggrieved party to file a protest and thereby secure an open hearing on the whole subject was to make sure that those who demonstrate they are "parties in interest" will have an opportunity to show the commission that it is about to make a mistake against the public interest. Important public interests, besides the narrower individual purposes of a protestant, are intended to be served.

The commission's decision dismissing the protest as untimely filed was accordingly reversed and remanded to that body. *Valley Broadcasting Co., Inc. v. Federal Communications Commission, 237 F2d 784.*

Commission Considers Attrition and Adopts Modified Phoenix Separations Plan

PROVISION for attrition was made by the West Virginia commission when it determined a return of approximately 6.17 per cent reasonable for a telephone company. In previous decisions, an allowance for attrition had not been considered proper.

The commission had been hopeful, in its prior decisions, that within the reasonably near future inflation would be curbed and, as a result, prices for materials and supplies, and wages and salaries, would be stabilized, along with the cost of living. The commission had even believed that there would be reduction in the prices of commodities generally.

Admittedly, such a stand had proved overoptimistic. All costs of furnishing public utility service, including wages and salaries, had continued to increase. The allowance for attrition made in the present case, by enabling the company to realize the return approved, would forestall the necessity of repeated applications for relief.

Separations Plan Adopted

The commission stated that the Modified Phoenix Plan, which was adopted in this case, was more closely associated with an equitable adjustment and more in conformity with the level or middle ground the commission had for so long advocated. The plan could be conscientiously endorsed. Failure to accept the plan would handicap the tremendous expansion program which the company was presently engaged in.

The subject of regulation is a constantly changing field due to economic developments. At the present time, the company continued to find itself in circumstances which required tremendous outlays of capital in order to provide service to new applicants, and to expedite numerous requests for upgrading.

Due to the increases in economic development in West Virginia, the commission felt that the company should keep pace with the other activities within the state. In the interest of uniformity and desirability, the rate base, operating revenue, operating expenses, and net revenue set out in the case were the result of the application of the Modified Phoenix Plan of Separations.

The commission, by accepting such plan, did not wish to indicate that the ideal solution to a very difficult problem had been reached. However, said the commission, the plan of separations was the most equitable and uniform yet presented to it as a regulatory body. The problem of separations was a subject that constantly commanded the attention and cooperation of state regulatory bodies, the Federal Communications Commission, and public utilities. *Re Chesapeake & P. Teleph. Co. of West Virginia, Case No. 4270, December 5, 1956.*

FPC Suspension Power Terminated Only by Effective Date of Rate Changes

On rehearing, the Federal Power Commission rejected a contention that it could not validly suspend proposed rate changes after the expiration of thirty days from the time of their filing, even though they would not become effective until some time later.

Section 4 (d) of the Natural Gas Act requires a minimum of thirty days' notice of a proposed change in a filed rate. Although there is nothing in the act precluding a longer period of notice, the commission's regulations prescribe a maximum of ninety days' notice prior to the proposed effective date of a change. But the notice time provided in § 4 (d), the commission observed, is separate and distinct from the authority to suspend a proposed change in rates under § 4 (e).

The only effective date for a change in rates is the date proposed by the filing company, provided it is not less than thirty days after filing, unless the commission "for good cause shown" allows the change to take effect earlier. But the suspension authority under § 4 (e) cannot be exercised after the effective date. Therefore, the period within which the commission may determine whether to exercise its suspension power is terminated only by the effective date, as fixed by the company, after the minimum 30-day notice period required by statute, but within the maximum 90-day period permitted by commission regulation.

Contract Change as Rate Change

The company argued that its proposed change was not in fact a change in rate because it was expressly provided for by the terms of a contract filed by the company. The commission said the law was settled that changes contemplated by contracts can become effective only in the form of changes in existing schedules, as required by § 4 of the act. No other procedure, it said, would permit the commission to fulfill its obligation to determine whether changes in existing rates are unreasonable.

Statement of Reasons

A contention that the commission had failed to file a statement of its reasons for the suspension was similarly rejected. The contention was supported chiefly by surmises of the congressional motive for requiring the statement. The commission cited a federal court of appeals case (11 PUR3d 1) upholding an order substantially identical to the one in the instant proceeding. In that case the statement consisted of a telegram stating simply that the schedules were suspended pending investigation and, referring to two orders which followed, enlarging somewhat upon the reasons for suspension. *Re Atlantic Refining Co. Docket No. G-11202, December 7, 1956.*

Commission Denies Consent to Interlocking Directorate

THE Federal Power Commission denied authority to the president and director of a company engaged in underwriting and marketing securities, to become a director of Central Louisiana Electric Company, Inc. The applicant's company, whose activities extend into the utility field, was conducting specific marketing activities relating to Central Louisiana.

Section 305 (b) of the Federal Power Act prescribes interlocking directorates such as that contemplated in the instant application, unless the commission gives its consent "upon due showing . . . that neither public nor private interests will be adversely affected thereby."

In support of the application, it was said that the contemplated position would continue a family association with the affairs of Central Louisiana, established by a deceased relative of the applicant. Family ownership of stock in the utility company was shown. The commission concluded that the applicant failed to prove, on this showing, that neither public nor private interests would be adversely affected by his holding the interlocking directorates. *Re Woodcock, Docket No. ID-1293, December 7, 1956.*

District Court's Remand to Commission Held Not within Jurisdiction

THE Colorado supreme court held that a trial court had exceeded its jurisdiction in remanding a cause to the commission with directions to hold a hearing in conjunction with its findings. If the trial court concluded that there was not substantial evidence to support the commission's decision upon the record as made, said the court, it had the duty to set aside the decision on that very ground.

The lower court had no power to order a rehearing on a question of fact but had to pass judgment on the record as presented. The lower court had to affirm, set aside, or modify the decision of the commission. *People v. District Court in and for the City and County of Denver, 303 P2d 692.*

Duplicate Filing of Gas Sales Contract By Nonsignatory Rejected

THE Federal Power Commission, overturning an examiner's decision, affirmed its earlier action rejecting a duplicate filing of a natural gas sales contract by a company which was not a signatory to the contract.

A gas-producing company, operating a unitized gas field in Louisiana, had filed a gas sales contract between it and another company. Thereafter, Hunt Oil Company, which owned an interest in the field, but operated no gas facilities in connection with the deliveries, also filed the contract as a gas rate schedule. Although Hunt was not a signatory to the contract, the filing was initially accepted by the commission.

Later, however, the commission rescinded this acceptance, saying that it was not in the public interest to permit dupli-

cate filings of gas sales contracts by parties not signatory thereto where the same contract has been filed as a rate schedule by a signatory and where such signatory's rate schedule may be taken as the rate schedule for all producers selling under it. To permit filings by individuals who are not primary parties to the contract, with a right to change the provisions of such contract filed as a rate schedule, the commission asserted, can only result in confusion and may involve substantial elements of preference or discrimination.

In the instant proceeding for rehearing of the rescission, the commission ruled that the rescission must remain in effect. *Re Hunt Oil Co. Docket No. G-9411, December 3, 1956.*

Taxi Fares Increased Along with Requirements For Efficiency Improvements

UPON a showing of a downward trend in revenues and an upward trend in costs, the Maryland commission authorized moderately increased fares for taxicab service in Baltimore.

About 40 per cent of the increase would go to drivers.

Along with the rate increase, however, the commission imposed several requirements relating to increased efficiency and service improvements. The effect of an existing practice of changing work shifts between the hours of 3 and 6 P.M., the commission pointed out, was to remove from service a number of vehicles during the time of greatest demand for them. The change of shift during rush hours was therefore required to be discontinued.

Noting that the use of two-way radio by some operators had resulted in quicker response to telephone calls for service, the commission ordered operators in Baltimore to make every effort to equip their vehicles with this facility. Frequent progress reports were required.

With a view to determining the effect of a new fare structure that would include a charge for extra passengers, the commission directed operators to investigate the practicability of using meters designed to register the added charge. They were required to report their findings.

The commission also noted that the inability of some operators to obtain competent drivers had resulted to some extent in inefficient use of available equipment. Special attention was directed to be given this problem and frequent reports required. *Re Proposed Increased Rates for Taxicab Service in Baltimore City, Case No. 5488, Order No. 52541, December 14, 1956.*

Tennessee Commission Takes Stand on Special Carrier Rates to Federal Government

THE Tennessee commission, after receiving a number of inquiries regarding the quotation of special rates or so-called "Section 22 quotations" by various classes of carriers, took a decisive stand which reversed a former decision. The commission made it clear that special rates to any party, including the United States government, could not legally be quoted for services in intrastate commerce without prior approval of the commission or strict conformity to the tariffs approved by the commission.

A common motor carrier of general

commodity freight, operating both in interstate and intrastate commerce, had petitioned the commission for a declaratory ruling. The carrier had been charging lawful approved tariff rates, the same that had been charged the general shipping public for identical services. The federal government contended that certain reduced rates in effect on interstate commerce were applicable on Tennessee intrastate traffic.

The commission pointed out that a common carrier could not be a contract carrier, nor could a contract carrier be a common carrier. A common carrier could not enter into a contract but had to charge only the lawfully approved rates. Similarly, a contract carrier's rates had to be approved and could not be less than those of a common carrier for substantially the same classes of various carrier service.

Recognition was given to the fact that the commission could not restrict or regulate the contractual rights of the United States government. It was not attempting to do so. The commission, however, was authorized to regulate and supervise motor carriers operating in intrastate commerce over the state highways.

Any common carrier regulated by the commission could not enter into any contract for the rendition of services at a rate lower than that approved by the commission. A contract carrier could not enter into a contract without prior approval of the commission, nor could rates be less than published common carrier rates for substantially the same service. *Re Hoover Motor Express Co., Inc. Docket No. MC-227, December 14, 1956.*

Denial of Additional Trucking Authority Warranted

THE Missouri supreme court affirmed a commission order refusing to allow a trucking company, wholly owned by a railroad, to enlarge depot-to-depot freight-carrying authority to include pick-up and delivery service in communities served. The court held that the evidence warranted denial of the application upon a finding that the applicant had not proved public convenience and necessity for enlargement of its authority.

Present truck carrier service between the towns involved was adequate. The proposed enlargement would have created an adverse financial effect on existing companies. The applicant, held the court, did not have inherent authority, absent proof of public convenience and necessity, to perform such pick-up and delivery services incident to its depot-to-depot road-haul operation. *Missouri ex rel. Missouri Pacific Freight Transport Co. v. Missouri Pub. Service Commission, 295 SW2d 128.*

Property Sale Disapproved on Price Grounds

THE New Jersey commission disapproved a proposed sale of land by a railroad company on the ground that the sale price was not the best obtainable, even though the land was not used or useful for utility purposes.

After a period of unfruitful efforts to sell the land, the company had accepted an offer, subject to approval by its board of directors and the commission. Subsequently, in response to advertisement as required by the commission, a substan-

tially higher offer was obtained. In the meantime however, the first offerer had expended considerable sums to acquire encroachments upon the land in anticipation of consummating the purchase. In these circumstances the company recognized a moral obligation to sell to the first offerer.

The company contended that the sole concern of the commission in passing on the proposed sale was whether the property was used or useful for utility purposes. The commission rejected this contention, declaring that it had jurisdiction to consider the question of sale price as well as that of the use of the property.

Next it was argued that if the commission did have authority over the price, the sale should nevertheless be approved because of the company's "moral obligation" to honor its bargain. This argument must be rejected also, said the commission, for to give effect to it would be to permit the company through its own fault to nullify the object of the commission's advertisement requirement. *Re West Jersey & Seashore R. Co. Docket No. 9368, December 12, 1956.*

Federal Communications Commission Television Permits Reversed and Set Aside

Two separate decisions, both relating to Federal Communications Commission television permit orders, were reversed, set aside, and remanded to the commission by the United States court of appeals.

In one, an applicant which had been granted a permit to build a television station in preference to other applicants, on the basis of manifest superiority of over-all technical plant, was determined to have lost continued enjoyment of the preference.

The applicant had abandoned plans for the construction of a large studio building after the grant, and had leased and taken an option to purchase a studio building of a defunct television station for less than a fifth of the proposed construction cost. The preference should not be allowed to continue, held the court, unless, upon rehearing, the applicant could prove that the less elaborate building was superior to the proposed studios of the competing applicants.

In the second decision, the court held that the commission had erred in rejecting propagation curves in its rules as evidence of area coverage, and in concluding that the applicant had not been guilty of misrepresentation. Such misrepresentation had been brought about when the applicant had assured the commission that temporary authorization to operate from a mountain other than that specified in the original permit was only for interim operation pending construction of permanent facilities on the mountain specified. *Hall v. Federal Communications Commission, 237 F2d 567; W. S. Butterfield Theatres, Inc. v. Federal Communications Commission, 237 F2d 552.*

Injunction Suit against Rate Increase Prohibited During Pendency of Appeal

Parties opposing a rate increase were barred by the Indiana supreme court in their bid to obtain injunctive relief from a state circuit court against the

enforcement of a commission order authorizing an increase. Since the rate proceeding was on appeal before another circuit court of co-ordinate jurisdiction, the high court ruled that, for lack of jurisdiction, the injunction suit could not be maintained.

Contentions that no public hearing had been held or evidence received to support the order authorizing the rate increase—contentions asserted as grounds for injunctive relief—were matters for the determination of the court having jurisdiction over the appeal, the supreme court indicated. They were not issues which the other circuit court could determine for it.

An appeal, it was noted, is a continuation of the original proceeding, which binds all parties to the appeal who would have been bound by the original order. All such parties in this proceeding were at liberty to present their views to the court entertaining the appeal. *Indiana ex rel. Public Service Commission et al. v. Boone Circuit Court of Boone County, Indiana et al. 138 NE2d 4.*

Other Recent Rulings

Transit Line Abandonment. The Maryland commission authorized a transit company to abandon a transit line where excessively high operating expense in relation to passenger revenue justified abandonment. *Re Baltimore Transit Co. Case No. 5456, December 12, 1956.*

Less-than-carload Service. The Connecticut commission authorized a railroad to abandon less-than-carload service at a station in order to effect economies in operating expense where public convenience and necessity would be adequately served by nearby stations and available alternate modes of transportation. *Re New York, N. H. & H. R. Co. Docket No. 9369, December 12, 1956.*

Certificate Restriction Upheld. Observing that the construction of a certificate by the Interstate Commerce Commission should be upheld unless it is clearly wrong or arbitrary, a federal district court sustained that body's interpretation of a somewhat ambiguous restriction in a motor carrier certificate preventing the carrier from combining certain individual routes into an unrestricted through service. *Inland Motor Freight, Inc. v. United States, 145 F Supp 275.*

Note Issue. The Wisconsin commission authorized a telephone company to issue 4½ per cent, first mortgage, 2-year notes in connection with the conversion of its system to dial operation, upon a showing that the issue would result in a debt ratio of 46.9 per cent and that revenue would be ample to cover the annual interest charges and debt retirement needs. *Re State Long Distance Teleph. Co. 2-SB-665, December 3, 1956.*

Return on Fair Value Rate Base. The Illinois commission considered a return of 6 per cent on a telephone company's fair value rate base reasonable. *Re Alexis Telegh. Co. No. 43614, December 4, 1956.*

Water Company Rate of Return. The Wisconsin commission, in a rate increase proceeding, allowed a water utility a rate of return of 5½ per cent on a net book value rate base. *Re Jefferson, 2-U-4691, December 4, 1956.*

Refund Deposit Rule. The California commission denied a subdivision developer's petition for an order directing a water company to apply the provisions of a deposit refund rule previously in effect where the evidence showed that the developer had not actively negotiated for service prior to the effective date of the present rule. *Rowley v. Patterson City Water Co. Decision No. 54247, Case No. 5646, December 11, 1956.*

Sale of Electric Distribution Facilities. The Missouri commission approved the application of an electric company for authority to sell electric distribution facilities to a municipal corporation, pursuant to an agreement between the parties, and to discontinue that portion of its service, where the evidence showed that the proposed sale and corresponding discontinuance would not be detrimental to the public interest. *Re Kansas City Power & Light Co. Case No. 13,565, December 14, 1956.*

Agency Station Discontinued. The Missouri commission authorized a railroad company to substitute a prepay station for an open agency station located in a small agricultural community, on the ground that there was insufficient public need to warrant continued agency service in the community, considering the meager use made of the service and the considerable loss sustained by the company, as well as the availability of another agency station nearby and the adequacy of motor carrier service in the area. *Re Chicago, Milwaukee, St. Paul & Pacific R. Co. Case No. 13,451, December 17, 1956.*

Municipal Consent Not Approved. The New Jersey commission denied a water company's application for approval of a municipal resolution consenting to the laying of pipes in the streets of a small area where the evidence did not justify a finding that public interests were properly conserved and that continuous, safe, adequate, and proper service at just and reasonable rates was reasonably assured. *Re Ridgedale Water Co. Docket No. 9382, December 17, 1956.*

Conversion of Private Permit Authority. Public convenience and necessity for a carrier's proposed conversion of a private permit to a certificate of public convenience and necessity, held the Colorado commission, could not be proved by the testimony of witnesses presently satisfied with the service of the private carrier seeking the conversion. *Re Ephriam-King Transp., Inc. Application No. 12742, Decision No. 46990, December 19, 1956.*

Exclusions from Original Cost Appraisal. In adopting an original cost appraisal of a telephone company's property, the Missouri commission excluded allowances for omissions and contingencies and general overheads since there was no evidence to support a finding that such costs had been capitalized by the company in the past. *Missouri Pub. Service Commission v. Mid-Missouri Teleph. Co. Case Nos. 13,126, 13,127, December 19, 1956.*

Fare Increase without Rate Base. The Massachusetts commission granted a transit company's request for increased fares without determining a rate base where the company, on regular route operations, would still show an operating ratio in excess of 100 per cent. *Re Johnson Bus Lines, Inc. DPU 11867, December 21, 1956.*

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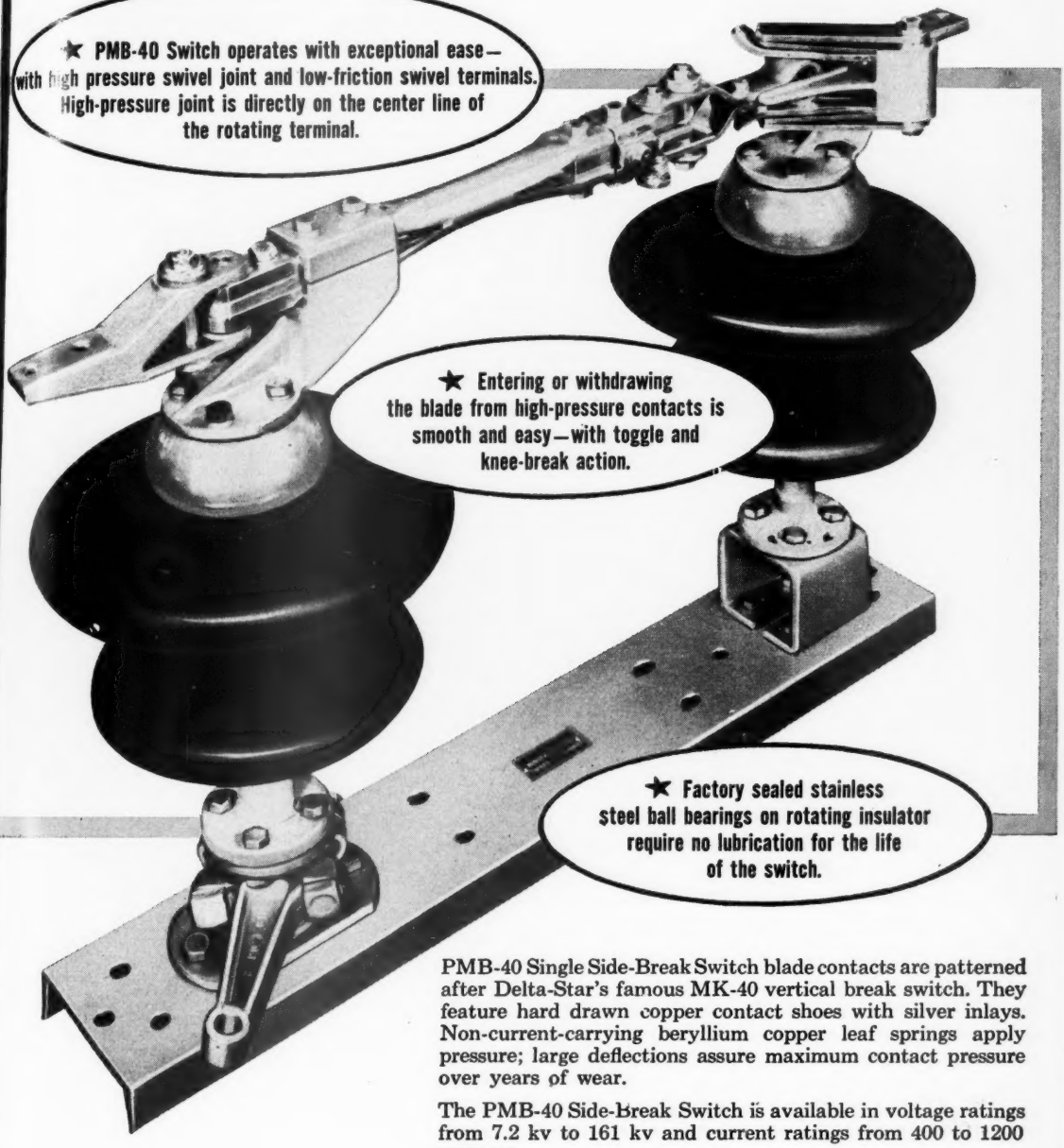

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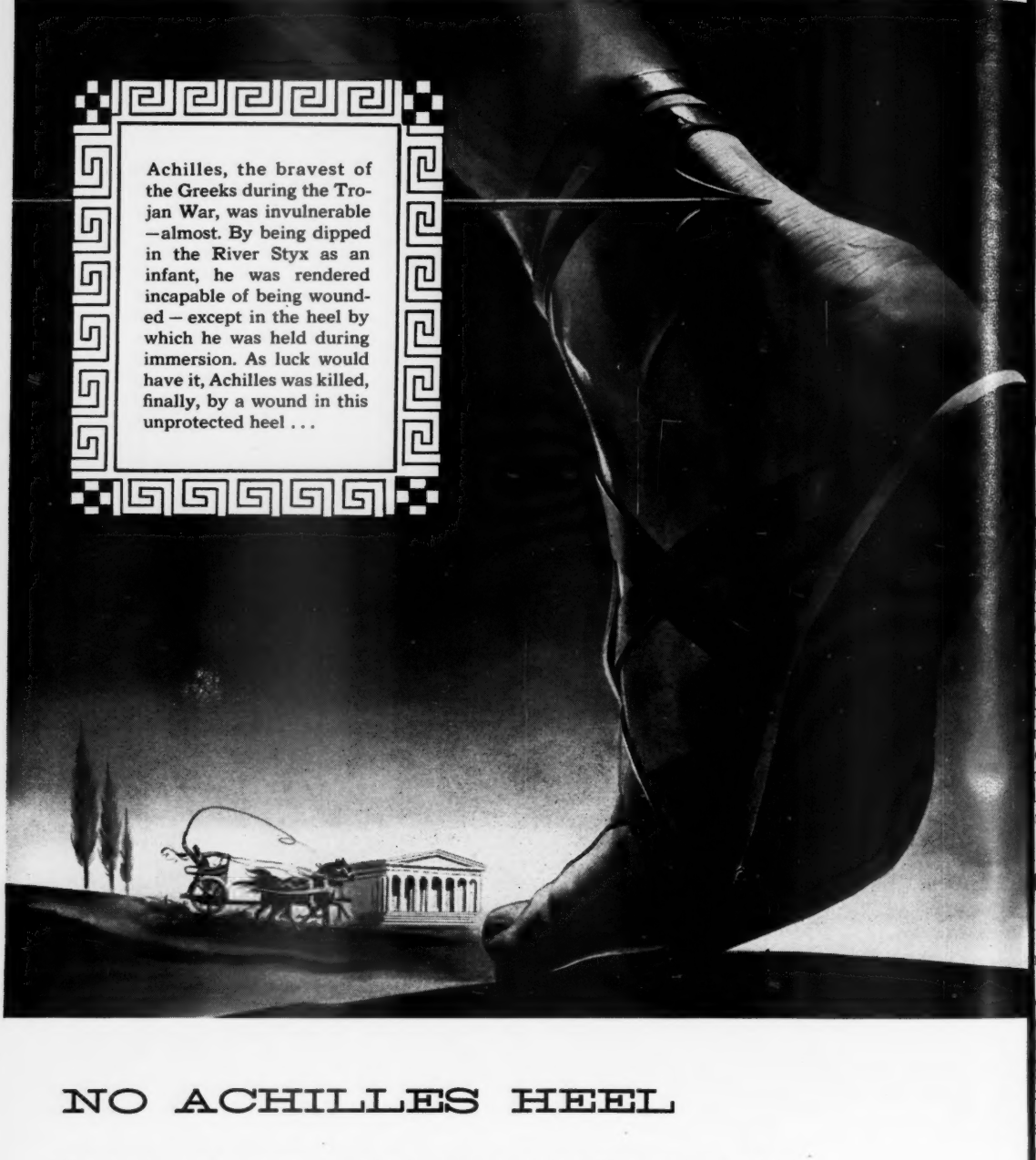
Achilles, the bravest of the Greeks during the Trojan War, was invulnerable—almost. By being dipped in the River Styx as an infant, he was rendered incapable of being wounded—except in the heel by which he was held during immersion. As luck would have it, Achilles was killed, finally, by a wound in this unprotected heel . . .

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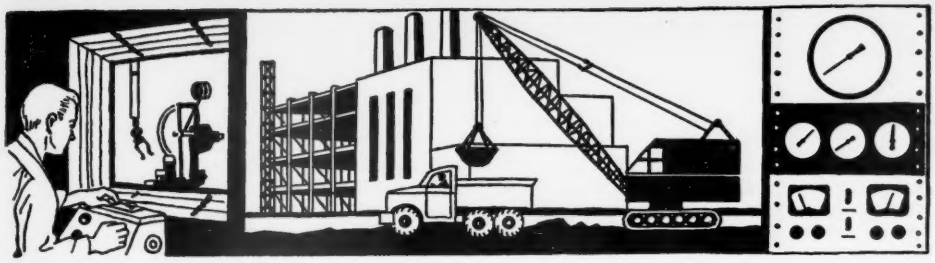

Industrial Progress

lic Service Electric to Spend 130 Million For Construction In 1957

BLIC Service Electric & Gas pany has budgeted a record ex- diture on new construction this r of more than $130 million, up n about $119 million in 1956, ac- ding to Lyle McDonald, chairman. Ir. McDonald said the Company s to install 3,000 miles of wire, 0 distribution transformers, 8,200 et lights, 11,500 poles and 28,000 tric meters to serve about this nber of new power customers. He ed that in 1957 the company also s to install 280 miles of gas mains add 30,000 new gas meters for rly the same number of additional customers.

iddle South Studies Building Power Reactor

DDLE South Utilities, Inc., an- nced recently it is investigating possibility of building a proto- e nuclear power reactor some- ere in its service area. The com- y said it has asked four firms to mit conceptual designs on a 22,- 0-kilowatt reactor.

The four companies are General ctric Co., Westinghouse Electric , the Atomics International divi- n of North American Aviation, , and General Nuclear Engineer- Corp.

ility Companies to Exhibit at Chicagoland Fair

HREE leading utility companies l be among the hundreds of ex- itors at the Chicagoland Fair, gi- ntic business, industrial, and cul- al exposition to be held at Navy er, Chicago, next June 28-July 14. Illinois Bell Telephone Company, oples Gas Light & Coke Company, d Commonwealth Edison Compa- ny will participate in the Chicago- land Fair, according to Richard Rev- nes, Fair director.

Sponsored by the Association of Commerce and Industry, the Chica- goland Fair will feature five miles of colorful exhibits and pageants extoll- ing Chicago as a "land of opportuni- ty" and saluting the city's progress. Hundreds of companies are expected to display their products and services at the exposition.

An estimated 500,000 persons are expected to attend the 17-day Fair.

B&W Refractories Bulletin

THE Refractories Division of The Babcock & Wilcox Company has pub- lished a new four-page bulletin which will be of interest to power plant engineers, buyers and execu- tives in the utility and industrial fields. The bulletin describes the use of Kaocrete-32, B&W's high temper- ature refractory castable, in boiler ashpits. A discussion of the various methods of ash removal, along with the maintenance problems peculiar to each, is presented. The bulletin illus- trates four different, yet typical, in- stallations where the use of B&W Kaocrete-32 has materially reduced maintenance costs.

Known as R-40, the bulletin may be obtained from any B&W Refrac- tories Division or Boiler Division Sales Engineer or from the Refrac- tories Division's general office at 161 E. 42nd street, New York 17, New York.

Water Shortages in Many Areas Force Closer Attention to Metering

THE partially-metered locality is fast disappearing under the growing awareness of the need to conserve water. Metering of water has been generally accepted since about 1920, but it has taken recurring water short- ages in the past few years to bring about more complete recognition of the problem and to stimulate a new trend to universal metering. This is the view of James G. Carns, Jr., me- ter engineer for the American Water Works Service Company of Phila- delphia, Pennsylvania, one of the leading authorities on water meters in the United States. A man with over 27 years of water works expe- rience, primarily in the operation and supervision of water meter prac- tices of privately owned water utili- ties, Mr. Carns, for the past ten years, has been responsible for the purchase of all meters used for cus- tomer service and the operating and maintenance policies for a group of over 100 water companies located in twenty-two states with a combined total of over 800,000 metered cus- tomers.

Mr. Carns relates that meters are purchased on the basis of long expe- rience of actual operating results. Consideration is given to such factors as: sustained accuracy; materials used in manufacture; maintenance costs; ease of repair; interchange- ability of parts and possible obsoles- cence.

Some firms developed the best me- ter they could, adhered to this basic design and improved on it, and these meters can be and are being recondi- tioned with new interchangeable parts within economic limits even after 30, 40 or more years service.

Experience over the years has shown the wisdom of purchasing quality meters and the introduction of standard specifications in 1921 by the American Water Works Association had a salutary effect on meter quality. Mr. Carns has been chairman of the AWWA committee working on a re- vision to existing association stand- ard specifications for water meters.

(*Continued on page* 22)

On the water meter manufacturing industry he observes: "Sufficient spirited competition remains between those companies still producing water meters to hold prices to a low level consistent with general economic conditions." The following comments were offered by Mr. Carns on the characteristics of water meters in the interest of broader familiarization therewith.

Meters produced today are being manufactured to meet pressure and quantity conditions common in this country. American manufacturers have the necessary experience with water characteristics to adapt and use the proper metal alloys required to produce meters suitable for varying water conditions throughout the United States.

It is not possible to select one metal or alloy for all types of water encountered and the problems are so complex that long experience is necessary to provide meters for specific locations. Even slight variations in metal mix sometimes present severe maintenance problems and rapid loss in meter accuracy.

Changes in chemical treatment of water may also have adverse effect on otherwise suitable materials. The wide experience which meter manufacturers in the United States have with such problems and their excellent co-operation in working them out with their customers cannot be easily, if ever, matched.

The high level of assistance by salesmen and the technical research of the manufacturers, plus their advertising in technical periodicals over many years has done more to effectively conserve water on a nationwide basis by educating water utility personnel and others to the problem than any other single factor.

Persons not well-versed in the business have difficulty in comprehending the tremendous quantities of water required to supply the needs of this great country of ours and the utmost need for conservation of existing available supplies.

For example, 170 billions of gallons are used each day of which 77 billion gallons (or over 40 per cent) are used for industry. Without proper supply, many industries cannot operate.

To make one ton of steel requires from 6,000 to a maximum of 110,000 gallons of water; one ton of synthetic rubber GR-5 requires from 28,000 to 670,000 gallons, and to produce 1000 KWH of electricity takes from 52,000 to 170,000 gallons for steam generation.

Without the use of properly constructed water meters, there would be an increase in the wastage of water sufficient to impair the economy of the country.

It is a fact not too well known, that a very small leak of 1 quart per minute in a plumbing fixture, such as a toilet in a private home, wastes more water (360 gallons in twenty-four hours) than the average family uses for all purposes.

Yet, if meters are used that are not capable of registering such minute leakage, the leaks are not repaired and tremendous loss of one of our national resources results.

Nationally known New York Consulting Organization is seeking Tax Depreciation Accountant-Engineer

This individual must be qualified by education and experience with electric and gas utility properties to determine under the applicable rules of taxation:

1. Depreciation allowances based upon estimated useful lives and salvage, measured by:
   (a) Straight line composite method
   (b) Declining balance method
   (c) Sum of the years-digits method
2. Develop and apply mortality curves to mass property accounts as a statistical means of identification of property.
3. Develop statistical studies, such as age-life, to measure reasonableness of reserves for depreciation.
4. Ascertain tax basis (including intangible cost) of property and related depreciation reserves for sales and abandonments.
5. Be able to write clearly and persuasively on depreciation matters.

This individual will be located in New York. Salary open.

Please address replies to:

Box 131, Public Utilities Fortnightly
332 Pennsylvania Bldg.
Washington 4, D. C.

Lone Star Gas and Subsidiary to Spend $30.8 Million in 1957

LONE Star Gas Company and its wholly-owned subsidiary, Lone Star Producing Company, will spend about $30,800,400 for construction during 1957, D. A. Hulcy, president, said.

The 1957 budget is an increase of more than $1,000,000 over the 1956 high of $29,703,000. About $26,7 600 of the 1957 expenditures is sl for new construction with the mainder going for improvements present facilities.

Major items of the 1957 budge clude construction of new trans sion and gathering pipelines, enla ment of compressor station facili drilling of oil and gas wells, acq tion of leases, expansion of un ground gas storage facilities and struction of new buildings.

The parent company will take $ 895,800 of the budget, and Lone Producing will get $10,904,600.

Mohawk Power to Spend $94,000,000 to Expand

NIAGARA Mohawk Power poration announced recently tha will spend $94,000,000 in 1957 in struction and expansion of its ele and natural-gas facilities upstate.

Earle J. Machold, Mohawk pr dent, said the budget, largest in history, is 30 per cent above the 1 figure.

Major projects in the budget clude construction of two 200,0 kilowatt steam-electric genera units at the Dunkirk generating tion; completion of the final two five hydro-electric plants on Raqu river in northern New York, and start of a 17,500-kilowatt hydro-e tric station at Prospect on W Canada Creek, north of Utica.

Mr. Machold said the corporat also will put into operation the f of two new 200,000-kilowatt g erating units in its Huntley statio Buffalo.

Niagara Mohawk also will sp "several million dollars" on its e tric transmission and distribution s tem, and will construct and enla other substations throughout state.

Public Service of Oklahoma Plans $20,000,000 Power Stati

PUBLIC Service Company of Ok homa has announced plans for construction of a $20,000,000 el tric power station near the Oolog Dam on the Verdigris river about miles northeast of Tulsa.

D. J. Tuepker, president, said c struction is to begin in 1958 with plant scheduled to go into operati in the spring of 1960. He said ultim capacity of the generating station w be five million kilowatts.

(*Continued on page 25*)

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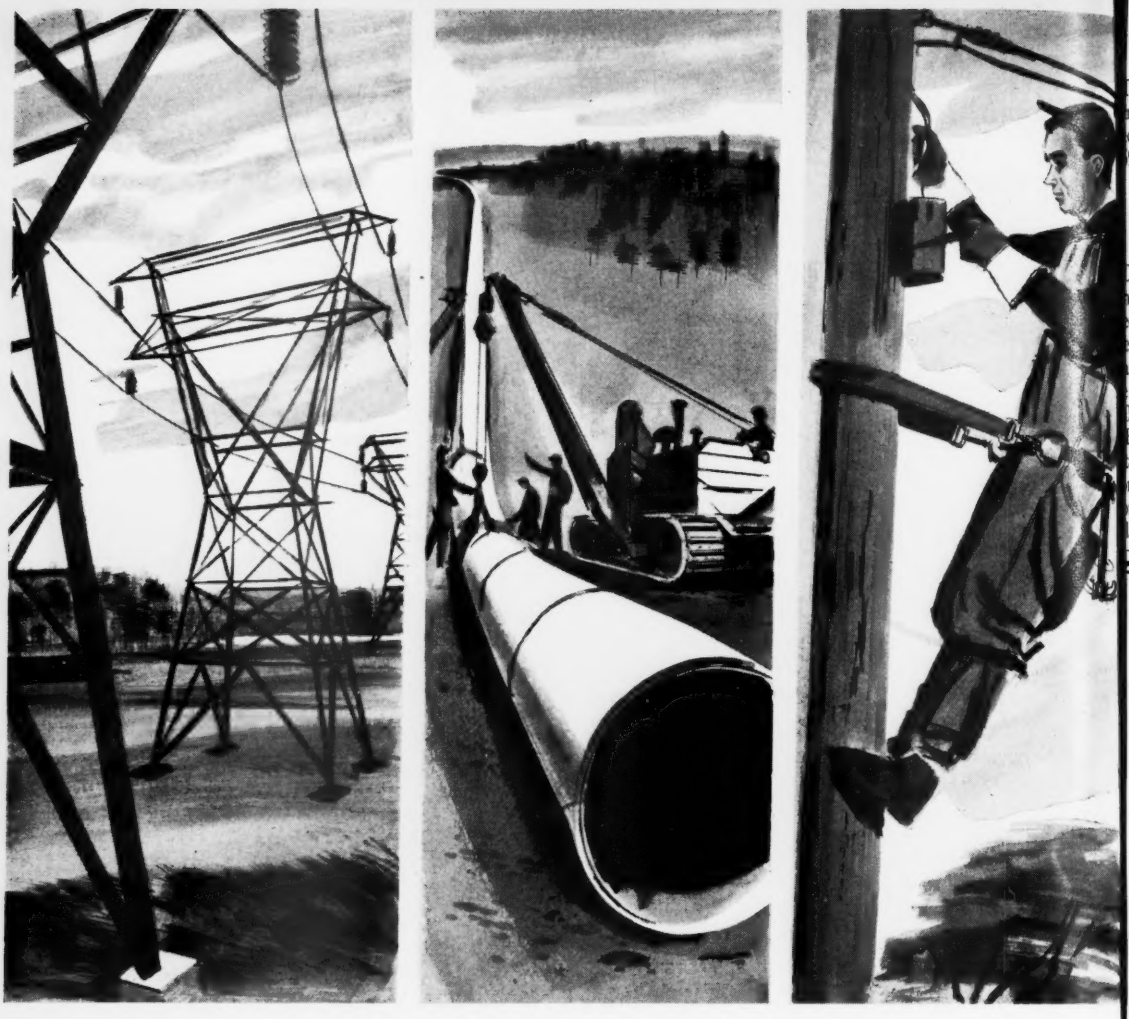

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The initial 175,000 kilowatt unit has been purchased from Westinghouse Electric Corporation for shipment in 1959, Mr. Tuepker said.

Monongahela Power Has 3-Year Expansion Program

MONONGAHELA Power Company, an operating unit of West Penn Electric System which serves central West Virginia, announced a three-year expansion program calling for expenditure of nearly $25,000,000.

Biggest part of the program will entail construction of new transmission lines and distribution facilities, Mr. Potter, president, said. Included will be a $2,400,000 line connecting the Rivesville and Willow Island power station to provide service for the new Loveridge mine of Pittsburgh Consolidation Coal Company.

The company has budgeted $8,312,000 for capital expenditures in 1957, $7,929,700 for 1958 and $8,251,500 for 1959.

Calectric To Spend $23,274,000 In 1957

CALIFORNIA Electric Power Company will spend a record-breaking $23,274,000 on construction throughout its service area during 1957, Albert Cage, president, disclosed recently.

The highest construction budget outlay in the company's history covers development of new power producing facilities, as well as expansion and improvement of transmission and distribution facilities.

Over $10,700,000 will be spent on construction of new steam electric generating plants and on improvement of existing steam electric and hydro electric generating plants. Included in this sum are funds for completion of Unit One at the company's new San Bernardino steam electric generating plant and for construction of Unit Two. The plant is located south of Norton Air Force Base near Loma Linda.

During the year Calectric will spend $7,800,000 for construction of

(*Continued on page* 26)

This announcement is neither an offer to sell nor a solicitation of an offer to buy these securities.
The offer is made only by the Prospectus.

New Issue

$46,224,200

Niagara Mohawk Power Corporation

4⅝% Convertible Debentures, due February 1, 1972

(To bear interest from February 1, 1957)

Convertible into Common Stock of the Company through February 1, 1972 unless called for previous redemption, at $31.75 per share, subject to adjustment under certain circumstances.

The Company is offering these Debentures for subscription to the holders of its Common Stock, to whom Subscription Warrants are being issued as more fully set forth in the Prospectus. The Warrants will expire at 3:30 P.M. Eastern Standard Time on January 28, 1957. During and after the subscription period the several Underwriters may offer Debentures, all as more fully set forth in the Prospectus.

Subscription Price 100%

Copies of the Prospectus are obtainable from only such of the undersigned and such other dealers as may lawfully offer these securities in the respective States.

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Stone & Webster Securities Corporation — **White, Weld & Co.**

January 14, 1957.

new distribution lines and expansion of substations throughout the entire service area. Transmission line construction throughout the service area will cost more than $2,260,000.

In addition to the $23,274,000 construction budget, Calectric will spend over $1,100,000 on maintenance of existing facilities.

G-E Issues Bulletin on the Commonwealth Edison Dresden Plant

THE General Electric Company's Atomic Power Equipment Department has announced a new bulletin describing design of the Commonwealth Edison Dresden nuclear power plant.

The bulletin, GER 1301, presents a detailed picture and word description of various phases of design work on this pioneer power plant and its auxiliary equipment. Copies of the bulletin may be obtained from the General Electric Apparatus Sales Division, Schenectady 5, New York.

Consol. Edison Starts Work On Atomic Plant

CONSOLIDATED Edison Company of New York, Inc., recently began field work on its $55,000,000 nuclear-fueled electric generating station at Indian Point in the village of Buchanan, Westchester county.

Contracts for the major parts of the plant have already been awarded. The reactor is being designed and built by Babcock & Wilcox, the turbo-generator by Westinghouse Electric. It is expected that electricity will be produced with atomic energy used as a fuel at Indian Point some time in 1960.

Atlantic City Electric Will Spend $19,000,000 in 1957

THE Atlantic City Electric Company announced recently that it would spend in 1957 almost $19,000,000 or $6,000,000 more than in 1956, for construction. In his year-end report, Bayard L. England, president, said about half the planned expenditure will go for new generating equipment.

Mr. England said a new 79,000 kilowatt unit will be installed at Del water "to serve the anticipated grow in residential electric use and expa sion of industry in the area."

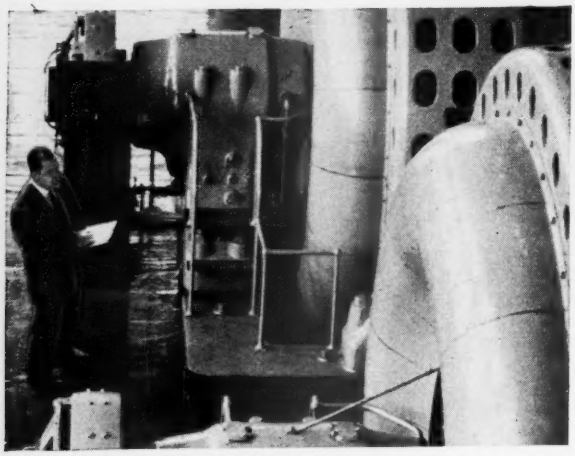
Atlantic City Electric serves 21 500 customers in eight southern N Jersey counties.

New York State Electric & Gas Spend $32,500,000 in 1957

NEW YORK State Electric & G Corp.'s expenditures for new elect and gas facilities for 1957 will be per cent higher than its 1956 expend tures, according to Joseph M. Be Jr., president.

The company will spend abo $32,500,000 on new construction 1957 as compared with approximat ly $25,000,000 spent in 1956. Mo than $15,000,000 of the 1957 new co struction program will be for ne electric generating, transmission an substation facilities. This includes th year's expenditure on the construc tion of the second 135,000-kilowa electric generating unit at the com pany's Milliken Station on Cayug

(*Continued on page* 28)



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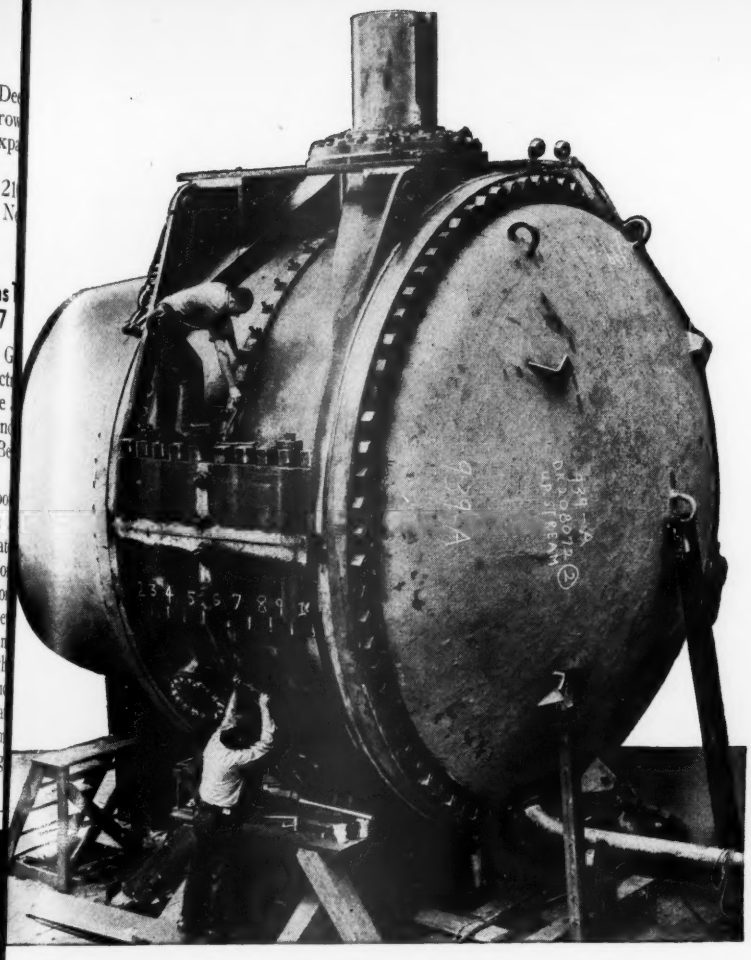

This 16-Foot Butterfly Valve Illustrates the type of work which Newport News takes in stride. Newport News built 3 such valves, each weighing 446,000 lbs., for the Ross Power Plant, Skagit Project, Department of Light, City of Seattle, Washington. Designed for a water flow of 3,620 cu. ft. per sec., and a hydrostatic pressure of 290 psi., these valves were shop tested by Newport News at 450 psi. They are hydraulically operated with oil at 1,500 psi. pressure. Shop tests assure speedy, trouble-free assembly of Newport News built equipment, on the site.

The TEST of a TITAN

Here is one of the largest high head butterfly valves ever built, undergoing a shop test at Newport News. If you had an opportunity to follow this unit from start to finish, you would see *first hand* how Newport News produces massive equipment *economically*. For economy is a basic advantage that results from Newport News' high integration of skill and production facilities.

Large engineering and technical staffs, operating a plant comprising acres of brass, iron and steel foundries, five huge machine shops and other extensive fabricating facilities, have made Newport News one of the world's largest producers of hydraulic turbines, valves, gates, penstocks and other essential equipment... both standard and special in design.

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NEWPORT NEWS

SHIPBUILDING AND DRY DOCK COMPANY
Newport News, Virginia

lake, 15 miles north of Ithaca. Construction of this unit was started in 1956 and is scheduled for completion in the fall of 1958.

Another major expenditure of $6,500,000 will be for the extension and enlargement of the company's natural gas facilities. The gas construction program includes increasing the capacity of existing natural gas facilities and new transmission and distribution pipeline facilities to extend natural gas service to certain additional communities adjacent to areas now served natural gas by the company.

G-E Bulletin

FOUR basic arrangements of rural package substations are described in a new bulletin available from the General Electric Company, Schenectady 5, New York.

Designated GEA-5276C, the 32-page publication contains photos, diagrams and information on the following substation arrangements: simple radial with one feeder; simple radial with one to four feeders; radial with looping high-voltage circuit, and high-voltage selective for two incoming lines.

Guide form specifications and information on the application of reclosers are included with the bulletin.

Gas Company Personnel Complete Measurement School at American Meter

TWENTY-TWO representatives of 15 major gas utility companies from the Eastern United States completed American Meter Company's latest measurement school in December. H. V. Beck, American Meter chief engineer, and J. E. Gesner, sales manager of the company's Reliance Regulator Division, conducted the classes.

Gas companies sending representatives to the school included Holyoke Gas & Electric Co., Connecticut Power Co., Mystic Valley Gas Co., New England Electric System, Dayton Power & Light Co., Western Kentucky Gas Co., Texas Gas Transmission Co., New York State Natural Gas Co., Southern Natural Gas Co., Southeast Alabama Gas District, Okaloosa Gas District, Delaware Power & Light Co., Reading Gas C Chattanooga Gas Co., and Uni Fuel Gas Co.

Measurement schools are conduc regularly at American Meter pla as a customer service. The scho deal primarily with orific me measurement, automatic control, fl proving, regulation, integrating vices and telemetering systems, cording to Mr. Beck.

Ebasco Appointmen

EBASCO Services Incorporated announced the appointment of R ert S. Quig as manager of the co pany's Rate Department.

Formerly assistant manager of t Rate Department, Mr. Quig is a gra uate of Iowa State College and Harvard School of Business. H joined the Rate Department of El tric Bond and Share Company as A sistant Rate Engineer in 1930.

In his new position, Mr. Quig w have supervision of the consulti services which the Rate Departme renders to electric, gas and oth utilities. He succeeds L. R. Leffe son who retired December 31, 19

All of these shares having been sold, this advertisement appears as a matter of record only.

Not a New Issue

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Price $40.875 per Share

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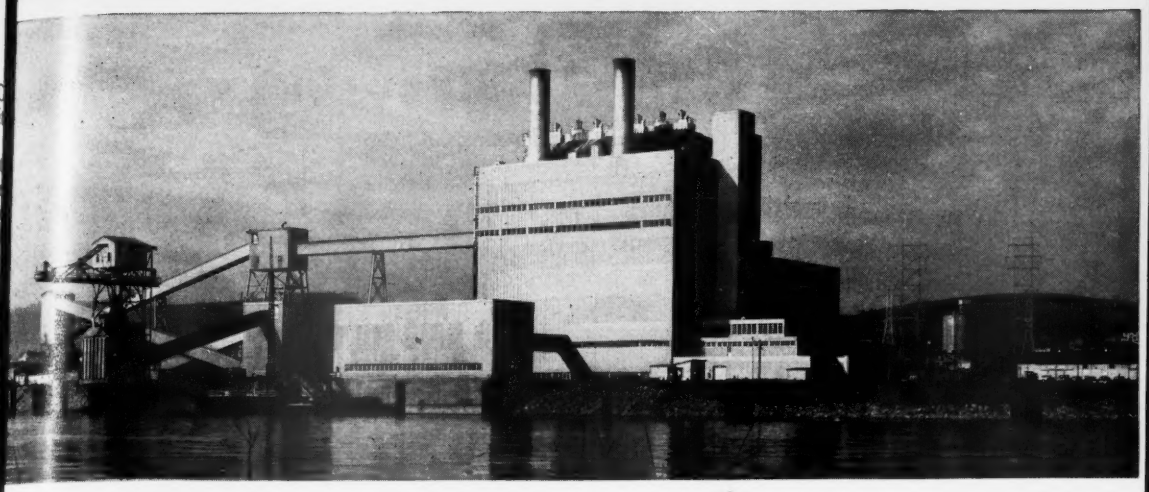
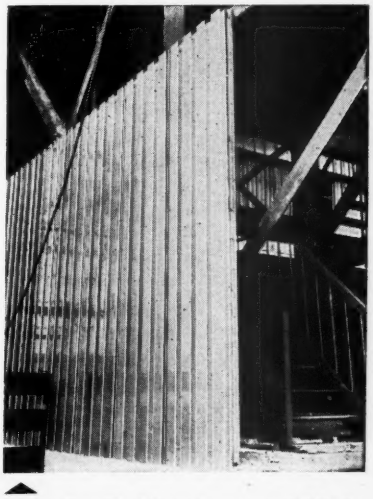
January 18, 1957



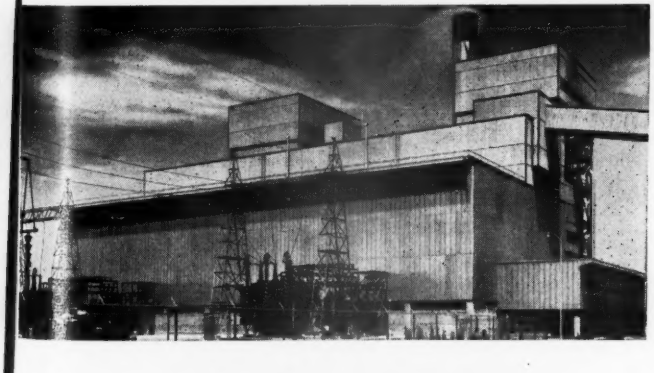
Q-Panel walls grace the new Elrama Power Plant (above) near Pittsburgh. It was designed by Duquesne Light Company's Engineering and Construction Department. The Dravo Corporation was General Contractor.

Why fine new power plants everywhere have Q-Panel Walls

Builders of new power plants in all parts of the country have specified Q-Panel walls for the following very good reasons: 1. Q-Panels are permanent, dry and noncombustible, yet may be demounted and re-erected elsewhere to keep pace with expansion programs. 2. Q-Panels are light in weight, thus reducing the cost of framing and foundations. 3. Q-Panels have high insulation value . . . superior to a 12″ masonry wall. 4. Q-Panels are quickly installed because they are hung, not piled up. An acre of wall has been hung in 3 days. For more good reasons for using Q-Panel construction, use the coupon below and write for literature.



Q-Panel walls (above) go up quickly in any weather because they are dry and hung in place, not piled up.



More than 32,000 sq. ft. of Q-Panels were used to enclose the impressive Hawthorn Steam Electric Station (left) of the Kansas City, Missouri, Power and Light Company. Ebasco Services, Inc., designed and built the plant.

Robertson

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INDEX TO ADVERTISERS

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A

Abrams Aerial Survey Corporation 33
*Allen & Company .....
*Allis-Chalmers Manufacturing Company .....
American Appraisal Company, The 26
*American Creosoting Corporation .....
*American Telephone & Telegraph Company .....
*Analysts Journal, The .....

B

Babcock & Wilcox Company, The 4-5
Black & Veatch, Consulting Engineers 30
*Blyth & Company, Inc. .....

C

Carter, Earl L., Consulting Engineer 33
Cleveland Trencher Company, The .....Inside Back Cover
Coates Field Service 33
Columbia Gas System, Inc., The 23
*Combustion Engineering, Inc. .....
Commonwealth Association, Inc. 15
Commonwealth Services, Inc. 15
Consolidated Gas and Service Company 33

D

Day & Zimmermann, Inc., Engineers 30
Delta-Star Electric Division, H. K. Porter, Inc. 19
*Divco Corporation .....
Dodge Division of Chrysler Corp. 13
Drake & Townsend, Inc. 30
*Dresser Industries, Inc. .....

E

*Ebasco Services Incorporated .....
*Electro-Motive Division, General Motors .....

F

*First Boston Corporation, The .....
Ford, Bacon & Davis, Inc., Engineers 30

G

Gannett Fleming Corddry and Carpenter, Inc. 33
General Electric Company ..... Outside Back Cover
Gibbs & Hill, Inc., Consulting Engineers 30
Gilbert Associates, Inc., Engineers 30
Gilman, W. C., & Company, Engineers 31
*Glore, Forgan & Company .....

H

Haberly, Francis S., Consulting Engineers 33
*Halsey, Stuart & Company, Inc. .....
Harriman, Ripley & Company 25
Hirsch, Gustav, Organization, Inc. 31
Hoosier Engineering Company 31

I

*International Business Machines Corp. .....
*International Harvester Company, Inc. .....
Irving Trust Company 24

J

Jackson & Moreland, Inc., Engineers 33
Jensen, Bowen & Farrell, Engineers 31

K

*Kellogg, M. W., Company, The .....
Kerite Company, The 20
*Kidder, Peabody & Company 0
*Kuhn Loeb & Company .....
Kuljian Corporation, The 31

L

*Langley, W. C., & Co. .....
Leffler, William S., Engineers Associated 31
*Lehman Brothers .....
*Loeb (Carl M.) Rhodes & Co. .....
Loftus, Peter F., Corporation 33
*Lougee, N. A., & Company, Engineers .....
Lutz & May Company, Consulting Engineers 33

M

Main, Chas. T., Inc., Engineers 31
*Matthews, Jas. H., & Company .....
*McCabe-Powers Auto Body Company .....
*Merrill Lynch, Pierce, Fenner & Beane .....
Middle West Service Company 32
Miner and Miner 33
*Morgan Stanley & Company .....
Morysville Body Works, Inc. 26
Motorola Communications & Electronics, Inc.
Inside Front Cover

N

*National Association of Railroad & Utilities Commissioners .....
Newport News Shipbuilding & Dry Dock Co. 27
*Nuclear Development Associates, Inc. .....

O

*Osmose Wood Preserving Co. of America, Inc. ....

P

*Pacific Pumps, Inc. .....
Pioneer Service & Engineering Company 16, 32

R

Recording & Statistical Corporation 11
Remington Rand Div. of Sperry Rand Corp. 9
Robertson, H. H., Company 29

S

Sanderson & Porter, Engineers 32
Sargent & Lundy, Engineers 32
Schulman, A. S., Electric Co., Engineers 33
*Smith, Barney & Company .....
*Sno-Cat Corp. of N. H. .....
*Southworth Brush Cutter .....
*Sprague Meter Company, The .....
Stone and Webster Engineering Corporation 32
Sverdrup & Parcel, Inc., Engineers 33

T

*Texas Eastern Transmission Corporation .....

U

*Union Securities Corporation .....

W

Western Precipitation Corporation 7
*Westinghouse Electric Corporation .....
White, J. G., Engineering Corp., The 32
White, Weld & Co. 28
Whitman, Requardt and Associates 22
*Wright Power Saw and Tool Corporation .....

Professional Directory 30-33

*Fortnightly advertisers not in this issue.

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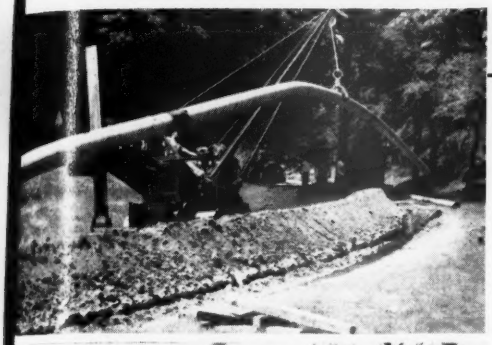

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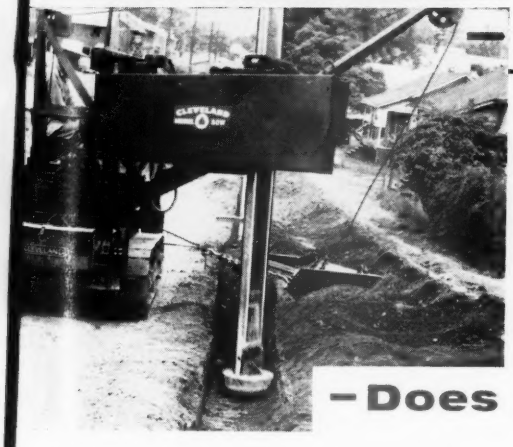

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DESIGN OF WORLD'S LARGEST STEAM TURBINE is discussed by General Electric Vice President G. B. Warren (center), and Large Steam Turbine-Generator Dept. engineers R. Shepperd (left), and C. W. Elston. Cutaway drawing of 450,000-kw unit is shown in background.

What is the turbine of tomorrow?

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